


ROGUE LEADERS



THE STORY OF  LUCASARTS
BY ROB SMITH • FOREWORD BY GEORGE LUCAS

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WRITTEN BY
ROB SMITH

FOREWORD BY
GEORGE LUCAS




CHRONICLE BOOKS
SAN FRANCISCO

Dedication

For Sandy.
For Everything.

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Library of Congress Cataloging-in-Publication
Data available.

ISBN: 978-0-8118-6184-7

Manufactured in China

Designed by **Altitude SF**
Photograph of Orson Scott Card on page 95 by
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Lucasfilm executive editor: J. W. Rinzler
art director: Troy Alders
Director of publishing: Carol Roeder

00 087654321

Chronicle Books LLC
475 Second Street
San Francisco, California 94107
www.chroniclebooks.com

www.starwars.com
www.lucasarts.com

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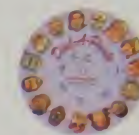
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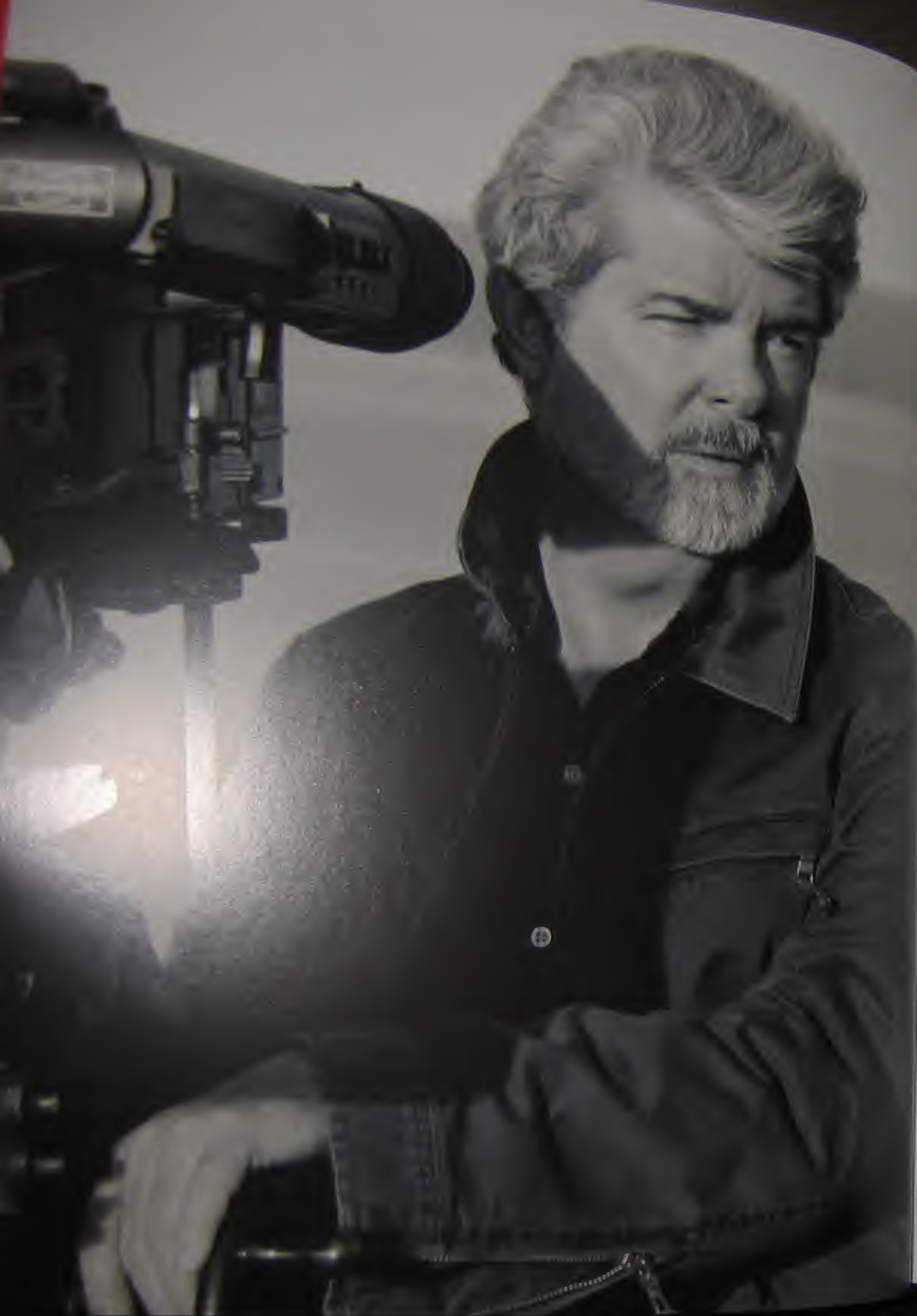
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Foreword

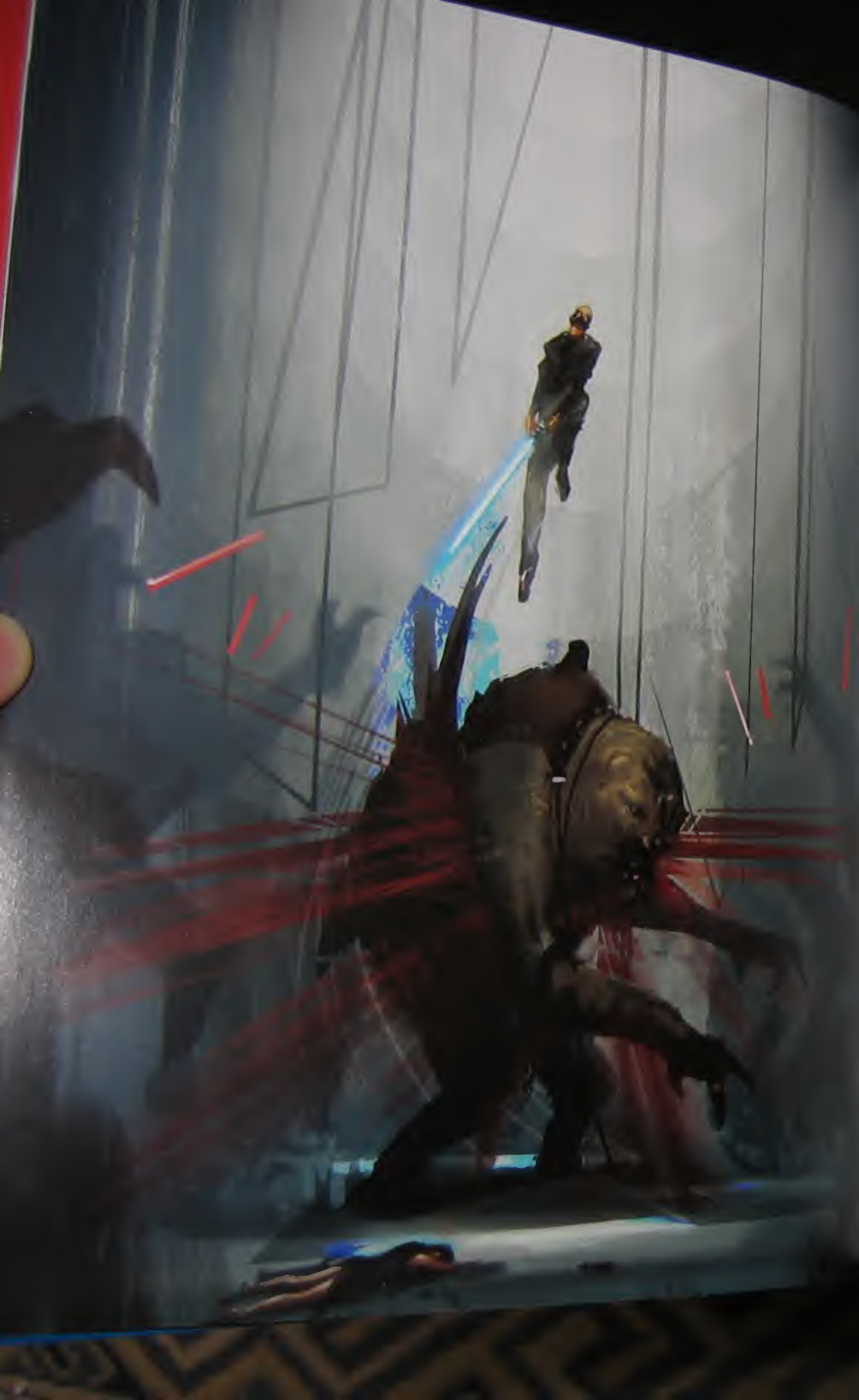
After encountering a frustrating array of technological limitations while making the original *Star Wars*, I felt there had to be a better way. The direction was obvious, and my dream became to move filmmaking beyond its inherent 19th Century technology into the computer age. Not long after I finished the film, I put together a group of people whom I felt could be pioneers in digital imaging and sound. I was fortunate enough to hire some of the best minds in the field, and they formed the Lucasfilm Computer Division. At the same time, videogames, although primitive, were emerging as an intriguing new form of entertainment—I was captivated by the idea of interactive technology as a new and different way to tell stories. It was also clear that some of the skill-sets in our new Computer Division would be relevant to this medium, so I had them start hiring for an additional group—that soon became Lucasfilm Games.

From the get-go it was important to me that the Games group build its own characters and stories. I wanted to have a really creative, independent shop. It's not a coincidence that our early videogames were *not* based on the *Star Wars* or *Indiana Jones* films. From *Ballblazer* to *Rescue on Fractalus* to franchises like *Monkey Island* and *Maniac Mansion*, the Games Division made *no* impact with its original IP. It wasn't until the *Indiana Jones* games in 1989 that they began to tap into the movies.

Over the last 25 years, lots of other film studios and toy companies have ventured into the videogame arena; but nearly all have dropped out at one point or another, unable to tolerate the vicissitudes of the business. We've stuck with it. Lucasfilm Games of course became LucasArts, which is now located with Lucasfilm and our visual effects house, Industrial Light & Magic, at the Letterman Digital Arts Center in San Francisco's Presidio. Together their work continues to focus on creating great entertainment through the ever-expanding palette of digital technology.

We're excited about the future. We can do things today that seemed impossible when LucasArts was born 25 years ago. And this is only the beginning.

George Lucas
Skywalker Ranch



Introduction

It didn't take long after its formation in 1982 for Lucasfilm Games to earn the attention of the videogame press. Whether reporters were staring in disbelief at the Atari 800 graphics of *Rescue on Fractalus*—even claiming they were being shown video and not actual gameplay code—or offering their souls for a first look at the latest game, the Games portfolio generated frenzied excitement with each impending release.

I am now part of that quorum of barterers. Having covered the videogame industry for more than 15 years, I've dissected every game published by Lucasfilm Games since 1993, and analyzed their significance in the industry. In fact, my very first cover as editor-in-chief of *PC Gamer* magazine, in May 2000, was for *Star Wars: Obi-Wan*—a game that would ultimately be cancelled for PC and released on Xbox; see page 143. I commissioned celebrated *Star Wars* artist John Alvin to paint an original image for that cover because the message was clear: When you want to publish the first announcement of a new LucasArts game, you pull out all the stops.

That commission, in fact, continued a legacy wherein *PC Gamer* put pretty much everything that LucasArts produced on its cover: the *Monkey Island* games, *Star Wars* titles, *The Dig*, and so on. After all, LucasArts stood for quality, and readers wanted all the details they could find.

To chronicle the entire LucasArts legacy within the pages of this book has been an unforgettable opportunity. Along the way, company veterans have recounted fascinating stories, as have some of the early protagonists we've also unearthed sensational artwork



Left: Concept painting for *Defenders of Dynatron City* featuring (clockwise from top) Megawatt, Toolbox, Blazeball Girl, Monkey Kid, Jet Armstrong, and Radium Dog, by Steve Purcell, circa 1991.

Opposite: Concept painting of the bad character fighting a monster from *Star Wars: The Force Unleashed* (2008), by Stephen Chang, circa 2005.

from deep within LucasArts archives. This is the story of a company fueled by amazingly passionate, visionary people led, of course, by its founder, George Lucas, a company that created classic videogames that have helped shape the interactive-entertainment industry from its formation up to the present day.

Like many of you, I'm still playing those games.

Rob Smith



CHAPTER ONE

LUCASFILM GAMES

(1980-1985)

Lucasfilm Games was a small, but growing, studio that had established a reputation for its high-quality, and highly successful, games. The company's first game, *Star Wars* (1977), established the company's reputation for quality and grew into a powerful force in the industry. *Star Wars* (1980),

the first of many, again displayed his talent for creating a new world, introducing the world of the young archaeologist named Indiana Jones. *Star Wars* in the entertainment world, visual effects and motion picture were emerging as powerful forces. *Star Wars*, *The Empire Strikes Back*, and *Blade Runner* were all receiving audiences as special effects transportation viewers to fantastical worlds.

Star launched the first CD player, the CDP-101, transforming digital media delivery. Machines like *Asteroid*, *Pac-Man*, *Robotron 2084*, and *Joust*

still took down the quarters of high-score chasing arcade denizens. For the first time, consumers were discovering handheld LED games that plinked, blinked, and blipped as their personal electronic entertainment. Even tabletop gaming—from deep, complex war games to fantasy role-playing games like *Dungeons & Dragons*—proved that entertainment time would be spent playing games. Significantly, the pen-and-paper gamers could stretch their own creative talents by writing modules and game mechanics to suit their own home game. With each year, fans had fewer obstacles keeping them from applying their own imagination to game design.

To underscore the growing influence in both serious business applications and entertainment extensions, *Time* magazine named a controversial but significant Man of the Year: The Computer



Home videogames had become a bona fide phenomenon, and Atari led the charge with its revolutionary 2600 console. Millions of cartridges and consoles were sold to consumers eager to bring just a little bit of that quarter-hungry arcade habit into the home. After licensing *Space Invaders* from Taito for the Atari 2600 platform in 1980, Atari's position wasn't just dominant for a videogame company; it was causing big businesses to take serious notice of this still-emerging market. Announcing some \$2 billion in profits in 1980, and adding more arcade hits like *Pac-Man* to the stable in 1982, Atari clearly led a huge source of potential business expansion with the home videogame market.

At this same time, Lucasfilm was displaying a highly original, adventurous story-telling approach in its movies. Founded in 1975, Industrial Light & Magic

(ILM) was leading the way in creating special effects. Lucas' creation of the *Star Wars* franchise was his logical next step, and it displayed a strong sense of the high-end ambitions of the videogame business. Lucas had identified computer-generated effects as a key growth area in movies and TV production, and established the Computer Division to investigate and create new technologies to deliver on this potential. Projects such as creating the "Genesis effect" for *Star Trek II: The Wrath of Khan* (1982) enabled the division to generate some positive cash flow while it invested in technology research and development.

Amid this convergence of technology and entertainment, it was apparent that the core target audiences of special-effects movies and the Atari game platform had significant similarities.



Lucasfilm COO Roger Faxon threaded out a deal with Atari that would see the leading game publisher provide Lucasfilm with about \$1 million. The result? A vaguely defined "See what you can make." Atari would have first right of refusal on manufacturing and distributing the result—whatever it was—although everyone involved was certain it would be good.

THE FIRST HIRES

Ed Catmull was head of the Computer Division at Lucasfilm in 1982. He was faced with the challenge of finding a qualified candidate to create a new division in a new branch of entertainment with a new directive; the search turned up Peter Langston. Based in New York, Langston had made a name for himself in the Unix community, in part for leading a team working on groundbreaking computer projects for major businesses, including Wall Street law firm DeLoe, Polk & Wardell. But it was his gaming credentials that mattered, as that expertise would be vital in finding projects that could deliver commercial returns on Atari's investment cash.

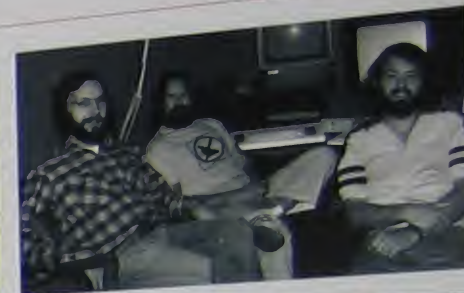
I joined Bell Labs' Unix operating system but
 was doing a range of games designed and released
 on and distributed over the network. This
 was due to the entertainment potential of these early
 mainframes were able to play Langston's
 The Oracle, StarDrek, and Empire. The
 Oracle is revered today as a classic of game design and
 is still cited as a study tool a few years later at
 the Hottinger Lucasfilm Games. Its Risk-like multi-
 player strategy gameplay demonstrating an incredibly
 addictive edge. But Langston was playing bad
 guy. "I turned down the job because it sounded like
 I needed an entrepreneur rather than a designer from
 outside," Langston recalls. "But Ed and Dan [Sil-
 ver] were persistent, and they eventually made an offer
 I couldn't refuse."

Peter Langston became employee number one of the games group within the Computer Division. "My charter was to figure out where in the entertainment industry to apply the kind of high-tech approaches that were proving so revolutionary in

"George wants to do games. By the end of the year, we'll have a game designer."
—Ed Catmull, vice president of the Lucasfilm Computer Division
(Rolling Stone magazine, June 10, 1982)

game designer."

—Ed Catmull, vice president of the Lucasfilm Computer Division
(Rolling Stone magazine, June 10, 1982)



graphics, sound, and editing for movies, and then to build a group to apply them," he recalls. "It took very little time to get on pursuing games—computer games, arcade games and theme-park rides—as the focus. Both creating the games and acting as the review and quality control for games increased to satisfy the developers."¹⁰

Around the rest of the Computer Division, much of the work was centered on research and design—the tools and techniques that could be used to bring high-end visual effects and digital post-production to movies. In an extent, the games group worked under the same premise, but where the rest of the division was spending money on no-development work, the games group was actually able to turn a profit, thanks to Atari's initial cash injection.

Staffing up in those early days wasn't a significant challenge given the established cachet of the Lucas name. David Fox and David Levine were two of the first employees aboard the Lucasfilm games group, which lacked a formal name at the time. "David and David beat down the door to be part of this new Lucasfilm project, and they made it quite clear when I interviewed them that I was going to hire them," says Langston. Joined by Rob Poor—who had jumped from a laser-film scanner/printer project with Lucasfilm—the group began to work on technology and what were considered potentially "throwaway" game projects, all of which would flex their varied creative and technical skill sets.

(Continued on page 16)

Thoughts on Game Development

David Fox
Lucasfilm, Ltd.
September 3, 1982

David Fox
9/10/1982

I have been playing a few new games and thinking about all of the old games I've played. Here are some of my thoughts.

Best of the Star Wars Films

Since our game software will be a Lucasfilm product, it seems appropriate to take a look at what Lucasfilm is famous for: its films. The best elements of the Star Wars films are:

- The very very good vs. the very very evil
- Secret or unknown weapons in the hands of the evil ones which can possibly be overcome with simpler, less effective weapons (often combined in new or unusual ways) through the use of ingenuity, skill, and teamwork.
- Overcoming immense odds after feeling hopeless/bopeless (emotional highs and lows, not just highs).
- Dazzling special effects modeling new realities. Includes great sound effects, visuals, feeling of motion through space, different life and death struggles, not just the same ones over and over again.
- Fully engrossing storyline - this is what you can't put down. More than one climax is needed - in fact there should be a new port of a game every few minutes.

Computer Games Shortcomings

So, what is lacking in current computer games? Here's a partial list:

- Usually a poor attempt to make something new, caused by a lack of hardware sophistication. One game, Zaxxon, has a vehicle that casts a shadow. It looks nice but the point of view is all wrong. You would see the vehicle from that perspective. The point of view should at least be right behind the vehicle, not inside behind the controls. Battlezone is the best example I've seen of a good simulation, although it lacks the fidelity in shapes and color of other games. Wouldn't asteroids be a lot more fun if you were inside the ship rather than outside it (possibly with a smaller, bird's eye point of view to help locate the asteroids)?
- Many games rely purely on the physical skills and agility of the player and don't reward intuitiveness, creative thinking, developing strategies or taking off-the-wall chances.
- Some arcade games include humor, usually when you are destroyed, but more is needed. A game with expertly executed animation can turn an average game into a hit.
- I haven't seen any games which make use of state of the art computer graphics technology. Loren and I have been talking about using fractals in a game (see below). He doesn't see any reason why not. And what about the use of color map rotation?
- Many games don't have enough "intrinsic significance" to them - who really cares about shooting a bunch of rocks or eating little dots? On the other hand, games like Missile Command have so much significance that they are frightening - they are a little too close to current reality. We need more pure escapist fantasy which the player can really embrace.

Computer Research & Development

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Lucasfilm Ltd

in Raiders or Star Wars. Stories which have no basis in current reality, yet contain characters which are real enough to identify with would be good. The TRON video game is nice in that it does have a character on the screen which represents you, but the "user" doesn't really care about him (other than for winning the game).

- Games which have excellent graphics and sound are rare. Usually the developers put their attention on one or the other. TRON is an exception to this down falling. It makes excellent use of sound effects (mimicking the film) and adequate graphics. We have the potential to produce games which are superb in both areas.
- The beginning levels of many games are way too advanced for beginners. But if a game is too simple, the game connoisseurs will pass it. I don't think that entering your skill level at the start of the game is a good method of setting levels. Having to advance through many levels may be boring for skilled players. It might be possible to measure response times, agility and accuracy as the game is being played rather than waiting for the user to advance through the levels. This would make the game playable by anyone.

Some questions to be answered:

- I know we can't use Star Wars characters, but can we use Star Wars places, vehicles, weapons? What does the licensing agreement say?
- Is it possible to include a processor/circuitry/extra RAM inside a VCS cartridge to produce much better games than the machine could ordinarily display?
- Can more than 8K of ROM be squeezed into a VCS cart and still keep costs reasonable?
- Would there be a profit involved in doing either of the above, planning to sell fewer cartridges at higher prices but making them the cream of the VCS games?
- What about producing a game which uses a new VCS analog joystick controller. I know it would be possible (each port can handle two analog paddles). What about a track ball?
- What about a two volume game, Part I and Part II, contained in two cartridges? When the player reaches a certain level/score, he can continue with the second cartridge.

A Game Idea - "Rebel Rescue"

In this game, the player is operating a high speed X-wing like craft. The object is to fly over rugged terrain while trying to locate a missing Rebel pilot and his downed plane. The point of view is from the cockpit, so everything on the screen is either the view out the window or the controls.

To create the sense of moving over the terrain, horizontal fractal lines will be used. Enemy fighter planes have been alerted to the player's approximate whereabouts so the plane must be kept as close to the ground as possible to avoid their radar. Of course, if the player gets too close, he will crash.

To help locate the downed plane, a homing signal is used. The player can tell whether he is getting closer or farther away. When the player passes over the downed pilot, a speck can be seen streaking by on the ground. Since many other specks also pass by, the player must keep one eye on the instrument panel homing signal indicator.

The plane is controlled by the joystick. Left and right moves the plane left and right. Forward and back on the stick adds or subtracts altitude. The button could either be used for a throttle control or as a fire button (possibly a rear gun for the enemy planes). Possible controls include fuel gauge, air speed, compass heading, and radar.

The game becomes more difficult the longer the player survives. The terrain gradually changes from more or less level ground to steep canyons and valleys. After some point, the enemy spots the player's plane, begins chasing it and firing at it. Points are scored for the amount of time in the air, number of enemy planes forced into the canyon walls, and especially for finding the lost Rebel pilot. If the pilot is rescued, the game continues at a higher level (tougher terrain, more enemy fighters, etc.)

Computer Research & Development

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Lucasfilm Ltd

David Fox

9/10/1982



Top: *Computer Games* magazine welcomed Lucasfilm to the games business in its Nov./Dec. 1984 issue.

Above: *Atari Connection* magazine announced the emergence of the new game studio, spring 1984. (Clockwise from top: Peter Langston, David Fox, Charlie Kellner, Gary Winnick, and David Levine.)

Right: An original box cover concept for *Rescue on Fractalus*, using the working title of "behind Jaggi lines"—but which started out as "Rebel Rescue."

TECHNOLOGY • DESIGN

When David Fox arrived for his new job at Lucasfilm, he was assigned an office with a Computer Division graphics wiz, Loren Carpenter. In these early months there was little cross-pollination between the Graphics Group—the visual-effects experts who operated as their own division under the Computer Division banner of Lucasfilm—and the game guys, aside from their office-sharing (and the manual and packaging that ILM eventually created for the first two games). Over time the games group got to do demos on some of the high-end computers and sound systems that were used for movie projects, and they borrowed Carpenter to finish his fractal technology work (see sidebar, opposite). Generally, though, they considered their initial games—which, again, many men considered throwaway projects.

One such project was "Rebel Rescue." Fox's design was simple enough: You would fly a spaceship across a craggy landscape searching for downed pilots. In the fiction of the world, the cog guns had been removed to allow for as much free space as possible to pick up pilots. You fly. You find. You stop and pick up the pilot. You move on. Bugzard through the mountains was tricky; avoiding enemy ships involved leading them on a chase until they crashed into mountains.

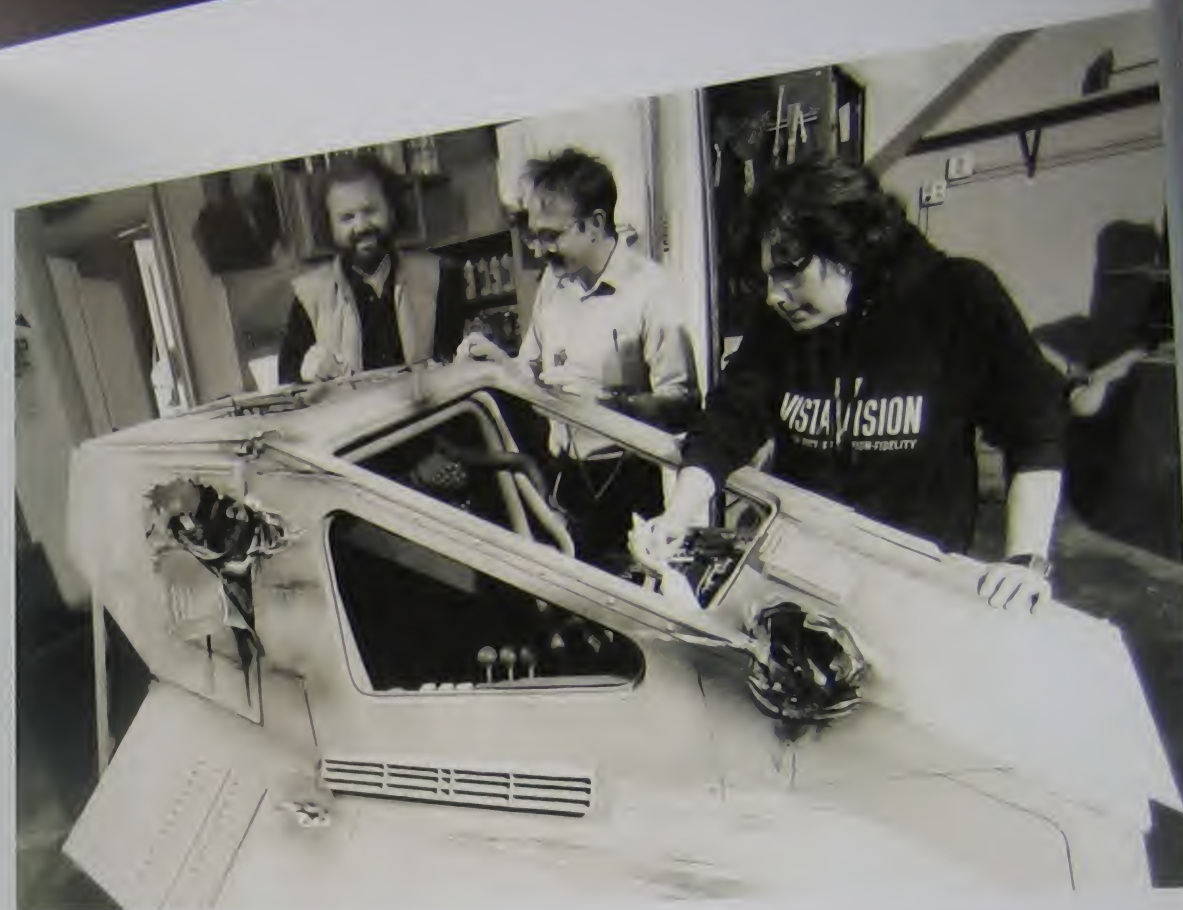
George Lucas wasn't overly involved in the games group, but Fox and David Levine showed a 20-minute demo of *Rebel Rescue* to the boss. Fox recalls how Lucas sat at the computer, started flying, and asked him where the fire button was, only to be told that there wasn't one. Lucas then asked if that was a game design or a moral choice. Fox admitted it was a moral one. In the post-meeting work on the



behind Jaggi lines!

demo, a fire button was added. That wasn't George's only contribution to the design, however. He also required you to land, and then a pilot would fly up to your ship and hop in. *Lucas suggested* that every now and again, a pilot could run toward you, but in fact it would be an alien in disguise. This seemingly subtle design change significantly impacted the player's experience and contributed to the game's long-lasting appeal.

Fox secured permission from Atari—who would be publishing the game—to not mention the name in the manual or in any of the PR. In fact, the design aliens don't appear through the first level or two levels of the game, so that just as you get into the late landing, turning off the engine, seeing a gun to a gun,



Above: Engineers from Lucasfilm assisted with building a Valkyrie Class Fighter model that would be used in *Rescue on Fractalus* packaging.

Left: Lucasfilm Games' first fractal graphics engine pushed the available technology beyond the media's expectations, as seen here in this screenshot from *Rescue on Fractalus*.

Fitting Fractals

If you place an "impossible" challenge in front of a talented programmer who's unclear on the definition of "impossible," chances are you'll be blown away by what really is possible. Fractal technology—the method of scaling 3-D images so they are more detailed as you move closer to objects—was the basis of the visual effects created by the Computer Division for films such as *Star Trek II: The Wrath of Khan* (1982). Loren Carpenter was responsible for the movie's "Genesis effect," where the Genesis device accelerates a planet's terraforming, clearly he could handle the state-of-the-art technology. But when David Fox optimistically asked his new office mate if it was at all possible to make fractal technology run on an Atari 800 computer—the benchmark at the time—"No" was Carpenter's quick reply. Nevertheless, amid discussions of a game design built around the concept of fractals, Carpenter took home an Atari 800 and, in just a few days, returned with a running fractal generator.



Not surprisingly, the Computer Division then loaned Carpenter to the games group to finish what he'd started. And, thus, the Lucasfilm games guys generated their first cutting-edge piece of technology to power their first games.



Top: Team members Peter Langston, Gary Wiersma, and David Fox autographed one of the final shipping boxes for the Atari 5200 version of *Rescue on Fractalus*.

Above: The final box packaging showcasing the Atari and Lucasfilm relationship in bringing *Ballblazer* to the Atari 5200 (1984).

Top, right: The Masterblaze helmet used as a prop in photographs promoting *Ballblazer*.



suit, and unlocking the door for him, you might not notice that the figure approaching has a green head. If the door was open, you'd be bearded and have to fly like mad into space and hope bullets sped him through the airlock. Despite Robert's rudimentary graphics, Fox recalls numerous people buying the game with tales of falling from their chairs, and even winning a huge adrenaline rush from the experience.

The title *Rescue on Fractalus* was chosen to create a hint and mystery about the game's *Star Wars* universe. But the game's development remained off-almighty to the Lucasfilm side of the house. Mission became the first game in the series, and it was Fox's personal favorite. "It was a game directed at the very taggy, mad scientist, mad scientist onscreen representing the end of the world," he says. "It was too technical for a relatively new audience, and the guys working in high-end graphics companies couldn't get it. Leaning on the technology itself, the company finally went with *Rescue on Fractalus*."

While David Fox designed and programmed this space adventure game, fellow games group designer David Levine was applying fractal technology to the second game in the studio's portfolio, *Ballblazer*. In the fall of 1983, *Rescue on Fractalus* and the

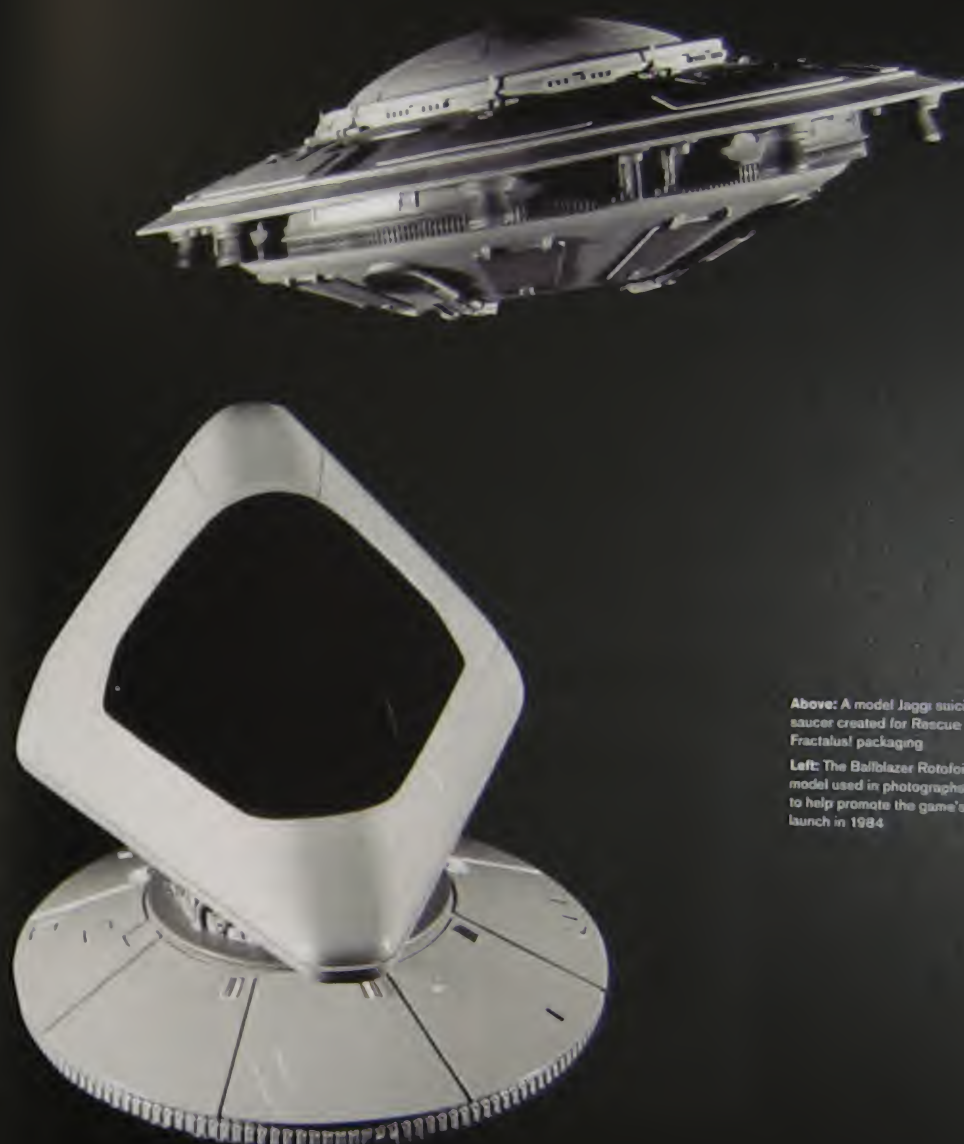
now-renamed *Ballblazer* were ready for Atari's marketing and technical department.

And that's where events turned sour.

According to Steve Arnold, who would go on to become the newly created Lucasfilm Games Division's first general manager in January 1984 when it was established as a separate business unit, the problem was that Atari "basically gave away copies of the game." Peter Langston recalls that the games were not in Atari "under extreme times-of-silence, considering everybody's burn-after-reading security." The game appeared shortly thereafter on the underground networks... and the pirated versions were not some awards.

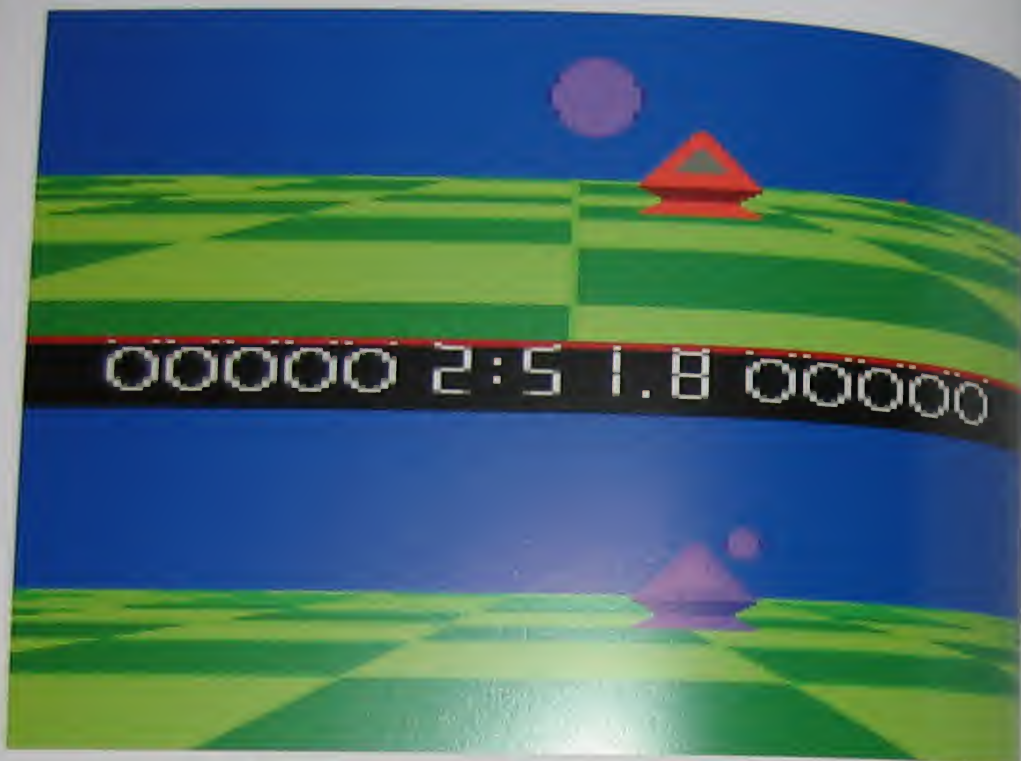
Without any form of serial number or protection, the games were available for download on the early "online" bulletin boards of the day. One of the enthusiasts buying the Atari 800 and was involved with the first 300-baud modem in the world, he found the game on a bulletin board, and it was a quick step to download. In fact, early reviews of both games mentioned their working titles, but their final titles were not. Even Tim Schafer—who several years later would join LucasArts and go on to design one of its most genre-defining games—referred to the games of "Ballblazer" during his interview with *Rolling Stone*.

Still, the technology on display caught the attention of the industry when it was showcased at the January 1984 Consumer Electronics Show. Attendees who saw demonstrations of the game's pre-release copies claimed the developers were lying. "We were told we must have video bad copies that we must be faking it," recalls Steve Arnold in reaction to the fractal technology. One person, apparently looking for a VCR behind the counter,



Above: A model Jaggi suicide saucer created for *Rescue on Fractalus* packaging.

Left: The *Ballblazer* Rotofoil model used in photographs to help promote the game's launch in 1984.



Above: David Levine's split-screen soccer-style game, with its very sophisticated graphics, actually played like a simulation. Players could judge where the ball would end up, in large part due to the physical assistance of Loren Carpenter. The competitive aspect of Balblazer's two-player game also helped establish its storied reputation in industry history.

Right: Atari 5200 Balblazer cartridge.



the display stand, which he assumed had to be a pre-taped source of the visuals and the graphics. It was simply that no one could believe force was possible on an 8-bit home computer—something levied at many first showings of the videogame. But this was the real deal.

Meanwhile, Atari was creating the game. Having spent \$25 million acquiring the rights to make a game based on Steven Spielberg's E.T., they built one in a scant six weeks—and the game flopped in the marketplace. One of the stories in the games industry is the resulting mountain of unsold or returned E.T. cartridges that ended up in a covered landfill in New Mexico that became the implosion further delayed the release of the Atari/Lucasfilm games—this after months of

panicking negotiations had necessitated even the intervention of Lucas, just to get the joint-venture into approval.

Eventually, the founder of Gremlinware Company, Jack Tramiel, bought Atari from Warner Communications parent. The impact for Lucasfilm was further delay in understanding Atari's strategy moving forward, and the need to renegotiate the original contract. Finally, the rights reverted to Lucasfilm, which struck a new deal with distributing Epyx to put Rescue on Fractal and Balblazer

"We're trying to change the idea that you have to be a computer programmer to create videogames."
—Ed Catmull

on retail shelves. Both were received warmly by critics (though most had probably played through the games in some form in the preceding 12 months). Steve Arnold recalls the games selling well—"in the tens of [thousands], or maybe 100,000 copies each, which was a big number at the time." Selling 50,000 units each would have been considered a huge success, so this was still a very positive first result. But it caused almost everyone at the company to wonder what might have been had the pirating of those early releases not been so widespread.

Atari and Lucasfilm Plan Joint Venture In Video Products
Warner Communications Unit And Movie Firm to Market 'Raiders' Game Cartridge

Above: Headline from June 7, 1982, Wall Street Journal

Star Wars—The Arcade Machine Legend

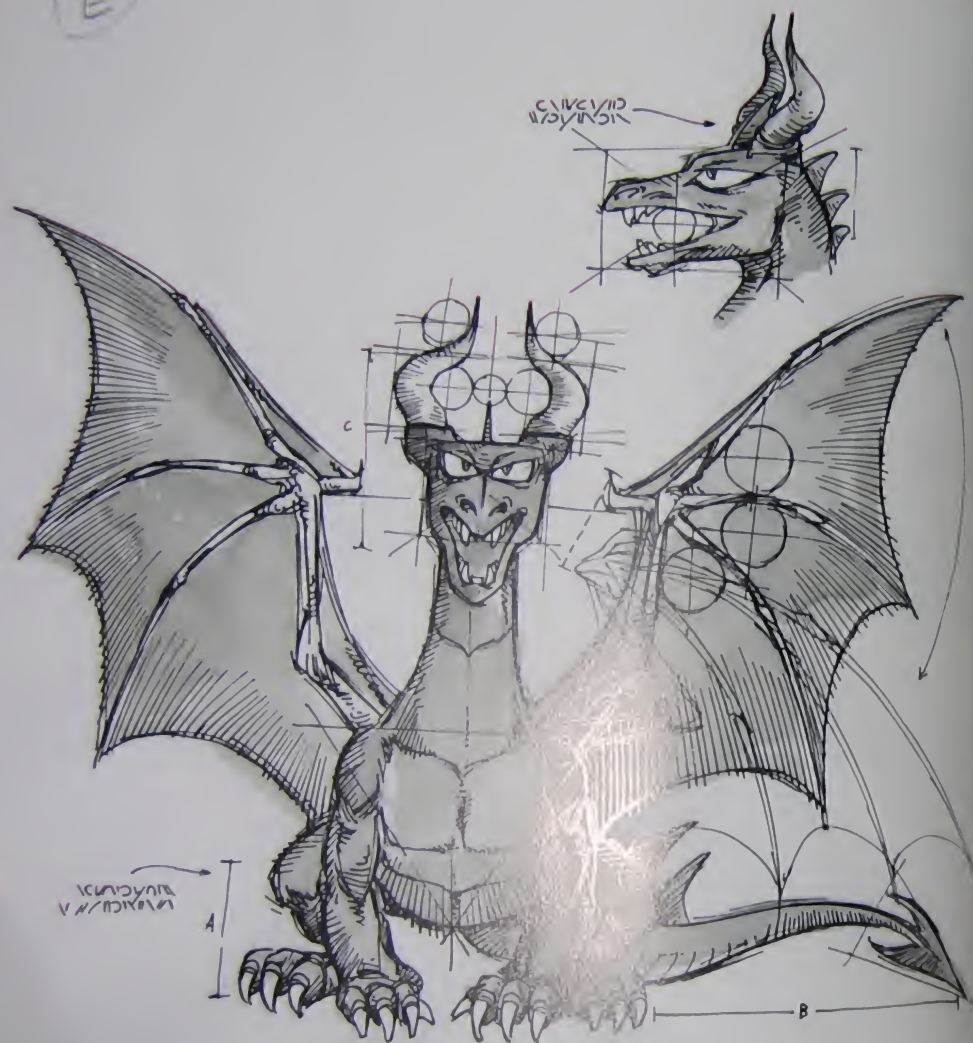
Lucasfilm had little involvement in creating Atari's massively popular vector-based arcade game. A positive aspect of the contract, however, stated that Lucasfilm would get the game for its own reference (or general amusement). Peter Langston studied the game's manual and discovered a switch or connector on the back of the machine that would flip it into a debug mode. If the contact was closed, the view on-screen would stop and the fire button would advance the scene one frame—which allowed him to freeze time, measure move the cursor, and then blast enemies at will. It was a handy function that Langston decided to make more accessible by putting a button in the cockpit that activated the switch contact. A label was attached to the button—"The Force."

About two years later, Steven Spielberg—who, always a gamer, would check out the projects in development during his regular visits to Lucasfilm and ILM—asked to borrow the Star Wars machine while he was working on *Indiana Jones and the Temple of Doom*. You know, just to keep him entertained on the sound stage during down time. So enamored was Spielberg with the game, he decided to order one for his own office in Los Angeles. Shortly after his new machine arrived, he was on the phone to Atari, wanting to know, "Where did 'The Force'



button go?" It had to be explained that this handy cheat was not a part of the actual game design.

Left: Flyer promoting Atari's Star Wars arcade machine, circa 1983



The Second Round: Koronis Rift and The Eidolon



Another new games group employee was Noah Falstein, who came to Lucasfilm Games from Williams Electronics, where he worked on arcade-game design (leading, for example, the Sinistar project). "Peter [Langston] was a little reluctant to hire me because I had worked at two actual game companies, and no one else in the group had ever worked even at one—he was worried that I wouldn't be able to come up with new concepts, since I was an old hand at age 26," he recalls. But after helping on Rescue on Fractalus, Falstein suggested the basic concept for a game he would call "Tanks A Lot" and was told to get started. "I didn't even do a real budget or schedule for it," he says of the minimal approval process at the time.

Struggling for a "real" title instead of the working pun for this space-based tank-scavenging action/strategy game, Falstein returned to the name of a project from his college days, and Koronis Rift (1985) was born.

Alongside Falstein, another newcomer to the group, Charlie Kellner, was designing a fantasy-based game called The Eidolon (1985), which would use the same fractal technology as Koronis Rift, Ballblazer, and Rescue on Fractalus. Both Koronis Rift and The Eidolon were commercial successes for Lucasfilm Games, as well as for Epyx, the new publisher for these two projects.



Above: Lucasfilm Games released both Koronis Rift (1985) and The Eidolon (1985) for Commodore 64 and Atari systems through Epyx.

Left, top: The screen for Koronis Rift showing the Surface Rover driven in the game.

Left, middle: Screenshot from Koronis Rift showing all enemy Guardian Saucers.

Left, bottom: Screenshot featuring an adversary from the Lucasfilm Games' first fantasy-setting game, The Eidolon.

Opposite: Concept sketch used in the game manual for the dragon in The Eidolon, what unknown, circa 1984.

Fig. 8 78% DROP OUT HALF TONE SHOOT A TOUCH DARK



CHAPTER TWO

ADVENTURE AND SIMULATION

Contract renegotiations with Atari, finding a distributor, and figuring out how to get the pirated *Rescue on Fractalus!* and *Bob the Builder* on retail shelves had required a different type of business management. So while Peter Langston remained head of Lucasfilm Games' research and technology arm, Steve Arnold joined the company to manage the growing and evolving business.

Arnold had broken new ground leading the AtariSoft group, where he licensed successful arcade games to new machines outside the Atari family. After hitting the market in fall 1983 with arcade versions for the Apple II, T599a, Commodore 64, Commodore Vic-20, and IBM PC, the AtariSoft team shipped 35 products across the five platforms in

just five months, generating 70 million units in the process. Still, the parent company was becoming a reputed \$100 million per month as alleged license extravaganzas and escalating license and development costs converged with plummeting retail prices. Unconvinced that a turnaround was in the cards, Arnold returned the call from a recruiter rejoining Lucasfilm in late 1983.

When Arnold entered the fresh creative pastures of Lucasfilm Games in January 1984, he found the first group of employees starting their day around 10 a.m. and working late into the night. He recalls the era as one of high creativity and excitement. "It was a great time for raw innovation, surrounded by others doing groundbreaking work," recalls Arnold. Alongside Lucasfilm Games, the Graphics Group was using its Pixar computer graphics machine to produce high-end computer



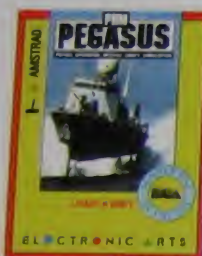
"It was a great time for raw innovation, surrounded by others doing groundbreaking work."

—Steve Arnold, general manager

fact, the machine was originally sold as a hardware platform to medical-imaging companies, among others. The Graphics Group would later be named Pixar, after the machine powering its visual creations (because a general consensus couldn't be reached on alternatives), and then would eventually be spun out and sold to Steve Jobs as its own entity. This core group—consisting of Ed Catmull, Alvy Ray Smith, and John Lasseter—would go on to massive success on the back of its animated movies.

For the games group, Arnold had concise directions from Lucas: Stay small, be the best, and don't lose money. Beyond that, Lucas' personal involvement in the games business was limited. Longtime LucasArts project leader Hal Barwood (1990) described Lucas' contribution as that of a rich uncle: "he paid the tuition fees to get you through college but never knew what your major was." In fact, early Lucasfilm Games designer and programmer Chip Morningstar (1984) recalls Lucas describing the games group as "The Lost Patrol": "Nobody knows for sure where they are or what they're doing, but they're somewhere out there."

Left: The Lucasfilm Games logo evolved with successful games and as the platforms allowed more complex graphics and color options.



Top: Moving on from Ezyx, a new publisher was found in Electronic Arts to release Noah Falstein's naval sim PHM Pegasus (1988).

Above: Aug. 1987 issue of Computer Gaming World touting "Electronic Arts' PHM Pegasus."

Right, top: Title screen for PHM Pegasus.

Right, bottom: Commodore 64 graphics allowed more color into the game designs, though the dominant water backdrop meant that Falstein didn't need to heavily tap the system's graphics power, as seen here in a PHM Pegasus screenshot.

DIPPING A TOE IN THE SIMULATION WATERS

Making a profit had never been a prime directive during Lucasfilm Games' early years. Between the Atari seed money and positive returns on its other games, it held its own. When the Computer Division spent an alleged \$500,000 creating a two-minute animation demo for a showcase at the 1984 Siggraph show, the potential to attain profitability became, for the first time, a key factor in greenlighting game projects. Still, the approval process remained fairly relaxed.

"Steve [Arnold] came to me after Kinnear Rift and said, 'Come up with a hit,'" recalls Noah Falstein. Elsewhere in the gaming world, military simulations had begun to emerge, as game developers found that the latest technology could accurately simulate a wide range of military scenarios. A number of Lucasfilm Games titles followed the genre. While business was slow at the time, the success at Skywalker Ranch led to the relocation of quarters of Lucasfilm Games to the former headquarters of Lucasfilm Ltd. in San Francisco, where a computer division was established and funded. "Hydrofoil simulations were a little more difficult to simulate," Falstein says, "but they're a lot easier to simulate." The result was a game that was not only a hit, but also a profitable one.

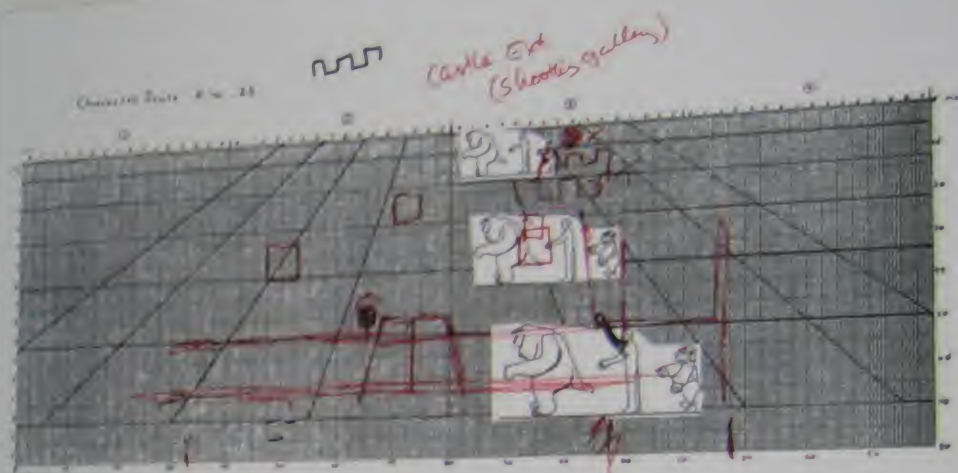
After time with Atari and Lucasfilm Games, the suggestion to develop a military simulation didn't sit well with every member of Lucasfilm Games. "[Ballblazer designer] David Levine in particular was adamant that doing anything like that was selling out, and he wrote a poem called 'Blood on the Water' to protest my idea," Falstein recalls. An in-house sensitivity to the military nature of these simulations, given the



mainstream identity of the group, was one of the game's development misadventures. Based on support from Steve Arnold, the war game was produced, with Electronic Arts lined up to publish.

The design for PHM Pegasus took time to take shape. Falstein's own preference was for a "HMS" Pegasus rather than PHM, which was for Patrol Hydrofoil (Mobile). "Let's be realistic, sound and music [composer Chad Green] was 'Sail the Ocean Blue' from the opera HMS Pinafore as the title song." But Stewart Bland, executive producer on the title, thought—correctly—that it was "too cheerful and upbeat for a military game, so we changed it," Falstein adds.

The First Movie Tie-In—Labyrinth: The Computer Game



| Full Screen | Half Screen |
|------------------|-------------|
| Loke - 72 x 46 | 76 |
| Maze - 87 x 29 | 35 x 19 |
| Muggle - 52 x 24 | 16 |

Before Lucasfilm Games was developing games based on its parent company's movies, it signed on to create the game that would support Jim Henson's (and George Lucas' and the film's executive producer), Through the Looking Glass. Steve Arnold and David Fox put in contact with Henson's studio in the Galaxy quarter Douglas Adams. "We had one of the most amazing weeks of our lives in London," recalls Arnold at the time, "to get everything done." "We had a bunch of people brainstorming around how to make the novel into a game. I did a first. He was a serious fan of the game, so he was producing. But he had many of the game characters as the original characters in his books," Adams remembers. "I had general story consultation, but he did come up with the most of making the game as a traditional level adventure (before it took on the modern gridworld style) and avoided, patching the players off quest with non-questing. He was giving them with the new format."

By the time the game was in development, the movie would have been quickly playing in theaters, as it couldn't be the same story. "It was a commercial challenge."



It was hard to do," notes Arnold. The result was fairly successful, in large part due to its general accessibility. The game focused more on the new story and characters than on the Labyrinth movie. "It was a commercial challenge."

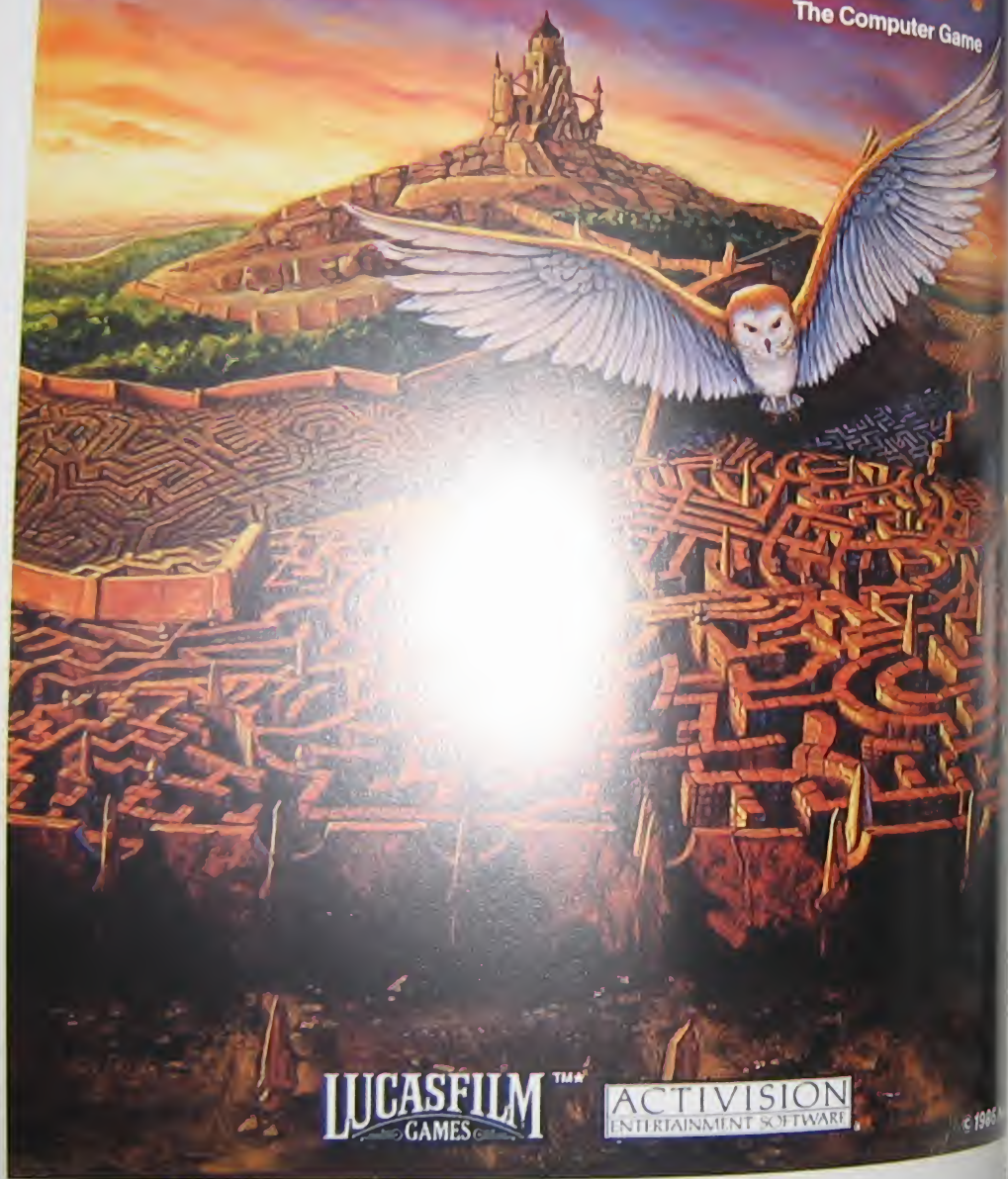
Top: Storyboard (and animation) on great ideas, including the perspective and scale of the maze, the players, and the characters. (April 20, 1988).

Above: In Labyrinth (1986), the movie story and characters were up to the movie story and characters. (April 20, 1988).

Based on the Jim Henson film.

LABYRINTH™

The Computer Game



LUCASFILM™
GAMES

ACTIVISION
ENTERTAINMENT SOFTWARE

© 1986

WE HAVE BEEN WATCHING YOU...
AND WE KNOW ALL THERE IS
TO KNOW ABOUT YOU...



ONE DOOR LEADS TO
CERTAIN DEATH.



OPEN

DOOR

Opposite: The beginning of the 1986 release of Labyrinth: The Computer Game (TM) and its film "Mistress of the Maze".
Left: Storyboard illustration of the character platform, as well as, some progression.

-
- A hand-drawn diagram consisting of a circle with the words "PLOVER ROOM" written inside. Below the circle, there are two arrows pointing downwards towards the word "PLOUGH".

One benefit of Lucasfilm Games' attachment to the bigger Lucasfilm company was access to the Graphics Group's Unix workstations. These high-end computers were used primarily for powering the massive number-crunching required by the movie visual effects of the day. The performance boost afforded the game's programming was significant compared to the time it would have taken on a target Commodore 64 system. Yet, it was also clear to

Opposite: A complete flow chart plots out the game progression for *Labyrinth*, including the text adventure beginning, an idea credited to a brainstorming session with legendary author Douglas Adams.

having your brain removed and placed in a 'shoe-bot,' you weren't actually lobotomized. With this awareness, and your immobile carcass lying somewhere on the space station, your goal was to reunite brain with body.

The scripting language was then applied to a new working game concept, resulting in a game engine that enjoys a glorious legacy. Even the famous acronym - SCripting Utility for Maniac Mansion - illustrates the depth of creativity coursing through the game designers in this tight-knit team. "I do think that one of the reasons the SCUMM system is still talked about today is its name," says Gilbert. But the humorous label was only part of the behind-the-scenes fun devised to turn dull but functional programming situations into a clearly defined language. Additional tools developed and plugged into SCUMM earned their own monikers, creatively themed around - of all things - bodily fluids. That explains Mmucus, Flem, SPUTM, Byle, and even Spū. Not only did the names have to involve secretisms, but it helped if they were misspelled, too. This simply followed the enterprising naming conventions at work inside Lucasfilm Games. All the computers, for instance, were named after planets in *Solar Wars*; Gilbert wrote Maniac Mansion on Kenel.

Acronym Translation

SCUMM

The entire scripting language and engine

MMUCUS

Related to the art-compression technique

FLEM

Used to tag the background an *area* (which would show an option to pick up, and so on—as you moved the that area)

SPU™

The runtime engine of SCUMM handles the **SCUMM Presentation Utility**.

BYLE

The animation tool used to convert the original Sun workstation to work on the PC.

SPIT

Used to manage the font usage for the on-screen text.



MANIAC MANSION

Ron Gilbert and Gary Winnick had generated the idea for *Maniac Mansion* (1987) through a joint affection for B-movie horror tales, a suitably quirky sense of humor, and numerous brainstorming sessions. Gilbert was the gamer, Winnick the artist. Gilbert was frustrated with text-driven adventure gaming, and was interested in a more graphical adventure; Winnick drew a picture of a spooky mansion with a sign that read, "Trespassers will be horribly mutilated." Gilbert thought it would be funny to parody the old standby of the horror genre: teenage kids entering somewhere that they shouldn't, being split up, and getting killed off one by one. As they batted around ideas, Winnick developed a playable paper version of the game as a proof of concept. Though neither designer had previous game-design credits under his belt, early trials and experiments suggested the project was worth the time investment, and general manager Steve Arnold gave them the green light.

Under the existing retail-distribution agreement, Gilbert, Winnick, and Arnold presented the game to Electronic Arts. As Winnick tells it: "Their upper management's reaction was that an adventure game in a comedy-horror genre wouldn't sell. Since EA was our funding partner and distributor, that pretty much left the project without a home." But Arnold showed faith in his designers and decided to self-fund development—making Lucasfilm Games a publisher, responsible for distributing the title to retailers.

His trust in his team and their concept was warranted, as Maniac Mansion introduced several fresh ideas to the adventure genre: It spawned the terminology "point-and-click" because the control mechanism had you click on the scene background



and the pre-set action words using the mini-map. It also involved three different character classes, which gamers could select at the start to represent each playthrough unique. To the delight of gamers, Maniac was packed with humorous situations, and many moments would later be referenced by nostalgia in other SCUMM adventures.

Lucasfilm Games' next project was *Zak McKracken and the Alien Mindbenders* (1988). The game revolved around a tabloid reporter (the titular Zak) who makes up stories about Elvish sightings and other fanciful events... and then learns that these stories are actually true. In the aftermath of this shocking discovery, players controlled four characters in a quest to stop aliens from "dumbifying the public."

Because this second game was designed by David Fox and not Rort Gilbert, it required some fundamental tweaks to work with the SCL MINI engine. It took Fox just nine months to complete the game, but he often worked until midnight and beyond to



This page: Concept art for *Maniac Mansion*, by Gary Winnick, circa 1986.

The overall vibe at Lucasfilm was one of great opportunity. Given George's accomplishments and the company's reputation, we had access to some pretty amazing people, resources, and opportunities. Everyone wanted to work with us."

A Lucasfilm Games insider jokes: "Q: How many Lucasfilm employees does it take to screw in a lightbulb? A: Just one. He holds the lightbulb and the world revolves around him."



Among its broader tie-ins for those game preferences, a *Maniac Mansion* TV series was produced in Japan and aired on The Family Channel in the United States between 1990 and 1991. While the show ultimately bore little resemblance to the game and involved the game's designers only sparingly, it used the core premise effectively. Ron Gilbert considered it pretty funny, despite its significant evolution from the source material. Meanwhile, *Maniac Mansion* was successful enough to be ported to the Nintendo Entertainment System—though in the process the developers had to cut some of the more adult language and imagery for the family-friendly system.

Across platforms and through the coming years, as game technology progressed at an astonishing rate, the SCUMM engine would remain flexible enough to be a stable adventure-game platform right up to the beginning of the 3D era. The system's future success and multiple uses, however, weren't anticipated during these early days. "I just needed a quicker way to make *Maniac Mansion*," says Gilbert.

(Continued on page 33)



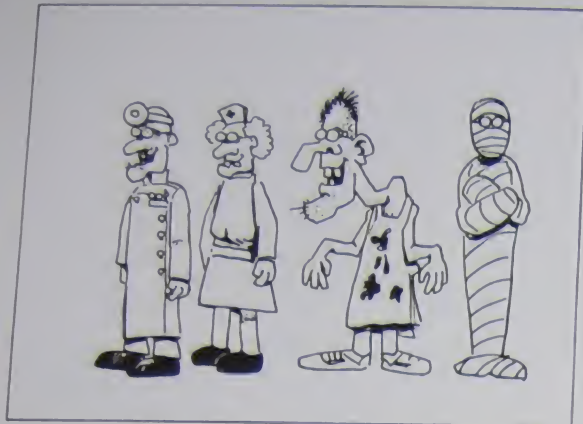
Above: Box cover for *Zak McKracken* (1988), which proved that the SCUMM engine could be adapted quickly to run around fresh adventure experiences.

Left: Conversions of several Lucasfilm Games titles were made for Fujitsu's FM Towns system in Japan, including *Zak McKracken* and the *Alien Mindbenders*.

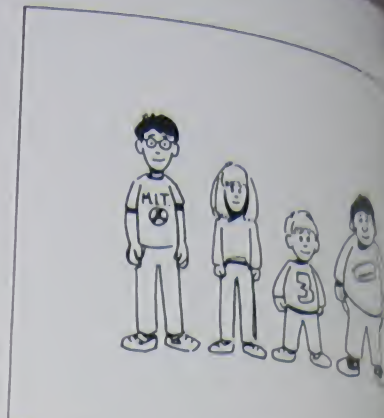
Below: Screenshots from *Zak McKracken*. New graphics and plotlines provided variety, but the control system remained familiar and effective for gamers trying out these adventures.



1



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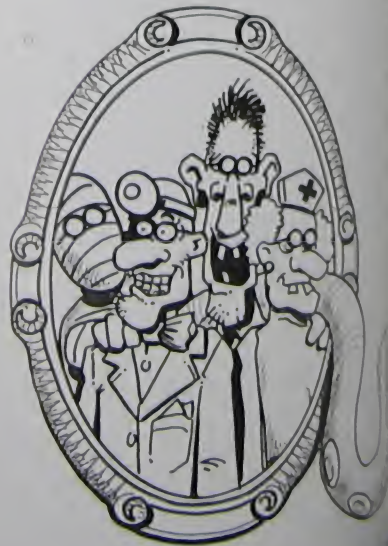
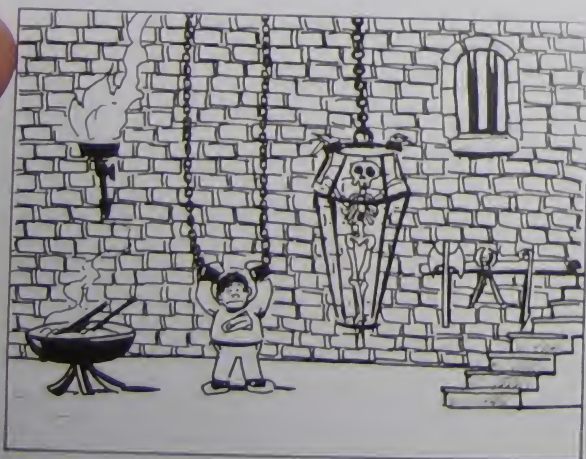
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Testing New Waters

While game development continued apace, the ongoing push for Lucasfilm Games to explore new technologies and business opportunities resulted in several intriguing experiments that collectively illustrate the innovation pursued during those early years. Around 1987, Hal Barwood—a longtime project leader at Lucasfilm Games and later at LucasArts—was brought to Skywalker Ranch to preview a new technology presented by a budding independent game studio called Interactive Productions. The fledgling developer was working on a Hebbro VHS tape-based game system, codenamed NEMO. Their premise was to take a regular VCR tape and divide the signal into four channels. Using a decoder (this would be attached to a VCR, the game would last as long as the tape). To make it interactive, the player would jump around the movie-like filmed scenes on the tape based on selected options. Of course, this process involved fast-forwarding and rewinding the tape, but it hinted at bringing some of the gameplay mechanism of the popular Dragon's Lair 3-D arcade game into the home.

The concept was interesting to Barwood given his movie background—he co-wrote the screenplay to *The Sugarland Express* (1974), co-produced *Close Encounters of the Third Kind* (1977), and produced the fantasy movie *Dragonheart* (1981)—but with many other projects on the go, Lucasfilm decided to pass. (The concept was eventually picked up by another publisher, Digital Pictures, whose first release was *Night Trap* [1992] on the Sega CD.)

In 1985 a company called Trintex (which would later evolve into the online service provider Prodigy) approached Lucasfilm Games about designing a "million-player Star Wars game." (That before *Star Wars Galaxies* [2003] would realize the core concept, the idea was floating around, aiming to run on relatively primitive technology. "A handful of us went up to the Skywalker Mansion Inn and Spa for a couple of days of brainstorming, gourmet meals, discussions at the poolside, a bottle of wine in your room each evening," recalls designer Noah Falstein. "It was the most hedonistic game-design work I've ever had the pleasure of doing.") As Trintex began to face financial trouble, and the monumental scope and ambition of the project became clear, they realized that this particular design concept was way ahead of its time.



Above: From left, George Lucas, Robert Dalva, Walter March, Hal Barwood, and Matthew Robbins. Opposite: Concept sketches of the characters and situations in *Mantic Mamon*, by Gary Wrench.

Another fascinating aside from the core games-development business came about in 1990 when a group was spun off from Lucasfilm Games to investigate opportunities in real-world location-based gaming. Perceived as possible movie theaters or bowling alleys of the future, the multiplayer-linked systems would take up a huge footprint but deliver the most immersive game experience possible by completely encapsulating each player in a cocoon of technology. An early proponent of this form of gaming was Jordan Weisman, creator of the *BattleTech* location game that put you inside the massive metal frame of a machine gun—and rocket-wielding mechanized warrior. Steve Arnold, who'd been Weisman's summer-camp counselor years earlier, loved the idea of entering this market, so David Fox moved from director of operations to head what was termed "the Mirage project." He dusted off an old game-design concept from 1982, applied the *Star Wars* motif of flying an X-wing through craggy mountains, and set about building a pod composed of two seats and three projectors. The group partnered with the Hughes Aircraft Corporation to build the prototype.

Using mirrors, an image generator, a rack of PCs, MIDI equipment for sound, and an Amiga computer for the heads-down display and input, the station generated a vast landscape in which players could fly around for hours. It was also networked with other stations. Author Orson Scott Card consulted on some game design work, and wrote a five-page scenario to play out in the simulator.

Unfortunately for Fox, Steve Arnold had moved on by the time the project entered its final stages, so its champion within the hierarchy of senior management was gone. The cost to build out this business, and the machines themselves, was proving to be prohibitively high: each image generator alone cost an estimated \$500,000. After trying (and failing) to market it, Lucasfilm Games sold the rights to Hughes and closed the Mirage division.

"We knew it was going to be hard, but we knew that connected storytelling was fundamentally where games should and would go."

RESEARCH & DEVELOPMENT: HABITAT

A couple of years into the games group's existence, a sense remained that their work was all a big experiment. Indeed, the entire Computer Division could be seen as an experiment, as it researched high-end digital-editing technology for implementation in all aspects of filmmaking. Still, the charter early on from Lucas was to be innovative, and that meant unique research projects within Lucasfilm Games.



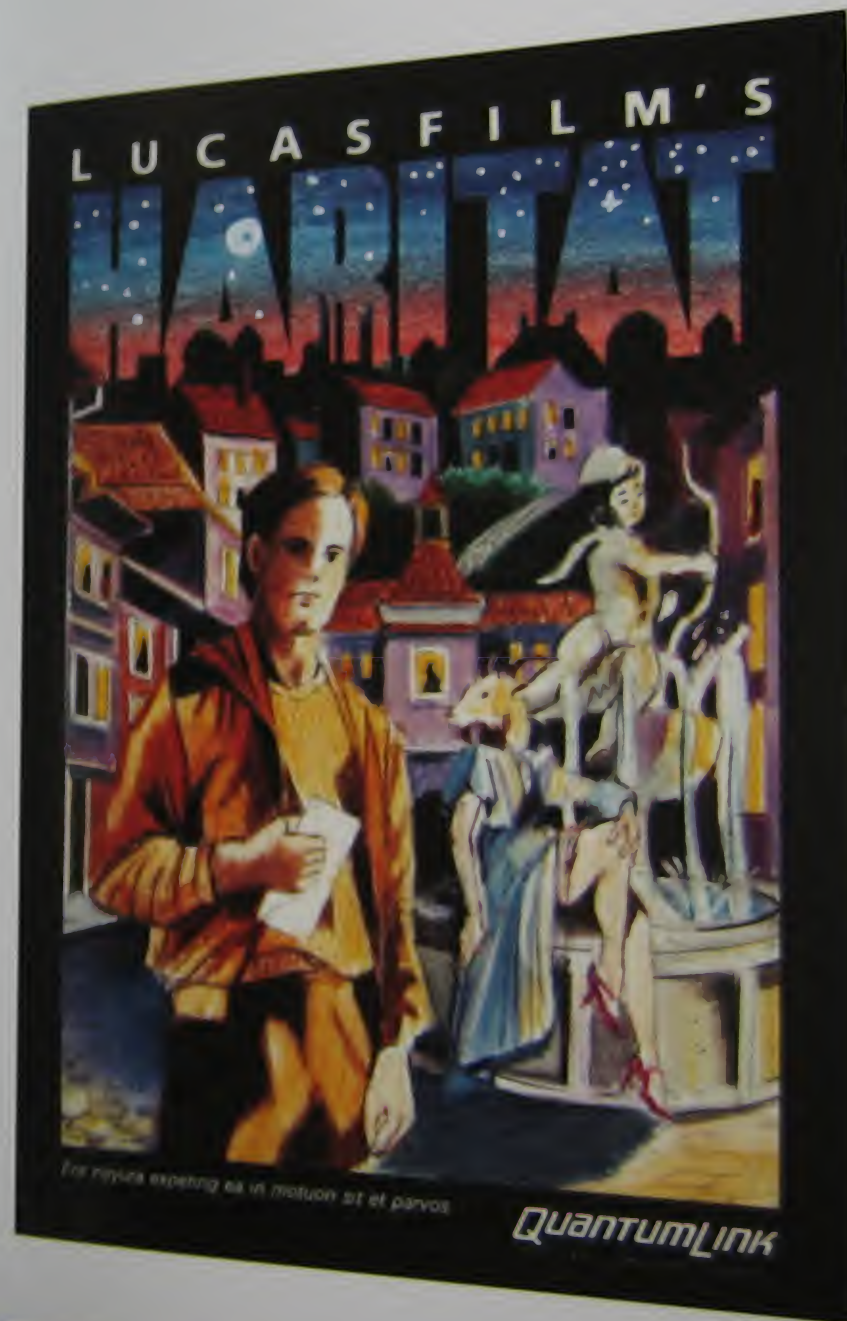
Above: Habitat enabled modem-equipped Commodore 64 users to talk to each other in a virtual world.

Habitat (known as "MicroCosm" until trademark issues prompted a name change) earlier iterations were "Lucasfilm Universe," "Lucasfilm Games Alliance," and "Lucasnet" stands out today as an astutely forward-thinking project. It was philosophically in tune with what gamers wanted, and was technologically about ten years ahead of its time. The Commodore 64 computer had a foothold in the U.S. home-computer

market, and a 300-baud modem was the gizmo that had captured the attention of enthusiasts. To support the launch of the fledgling network, Lucasfilm Games had invested in an online computer service, Commodore's QuantumLink. Lucasfilm Games in a match for money run through the online company's QuantumLink service. Customers were paying online service providers such as CompuServe \$12 a month, and the fledgling network laid even \$20 a month during peak daytime hours. QuantumLink was underpaid that price to around \$3.00 a month, paying out spare, unused server space during off-peak times. Through this partnership, a deal was struck to produce an online game, with Lucasfilm creating the front-end game, Habitat, and QuantumLink providing the server-side software.

"We knew it was going to be hard, but we knew that connected storytelling was fundamentally where games should and would go," says Ben.

Designer Noah Falstein had been one of the team engineers. Clay Mann, game concept. "To capture the breadth of potential customers, they settled on a fantasy day setting. Development began in 1985, and out a virtual world where each player had an "avatar"—a word defining a player's representation (and still used today). These avatars interacted with other players, composed of an online world composed of 20,000 uniquely individual screens composed of additional regions. Even within the game, this brave new frontier of



Left: Habitat's concept of an online community was way ahead of its time, and it was never commercially released in the United States. This piece of concept art was created for Habitat's box cover, with placeholder text and the QuantumLink logo, circa 1985 (until, unknown).

The pioneering work on Habitat by Chip Morningstar and Randy Farmer, the two programming gurus who had built the system infrastructure, earned them a First Penguin Award at the Game Developers Choice Awards in 2001.

Right: Reproduction of Habitat's title screen. A version of Habitat was licensed to Fujitsu to release for the FM Towns system.



wasn't easy: its concept simply had no precedent to this point, and so artist Gary Womack created a storyboard to illustrate the idea in pictures.

Despite the apparent advantage of not having to program artificial intelligence for in-game characters, given that all the players were real people, creating rules for player interactions required the developers to broach subjects never before considered in game design. Remarked Chip Morningstar in a long treatise on Habitat's creative process: "A special circle of living Hell awaits the implementers of systems involving that most important category of autonomous computational agent: groups of interacting human beings."

The team needed to ask innumerable questions about what was allowed and what rules or laws governed player interaction; for example, if you permitted

an action like taking an object from another player, what happens when one character takes an object, runs or logs off? To find workable answers, the team required a significant beta test among the community.

The game debuted internally at Lucasfilm Games at a company meeting in early 1987, with Winnick creating in-game avatars that looked like George Lucas and Steve Arnold. Only 500 beta software for this superbly innovative game was made available, and they were quickly snapped up by Q-Link users. Chat rooms were the most common source over these 300-baud modems. By the time Rabbit Jack's Casino program proved popular, the 50,000 Q-Link subscribers. Some 15,000 copies of Jack's disks had been distributed to the community, and players of that game accounted for about 3 percent of the total system usage. Upon its release, Habitat's 500-disk database was the most popular who gobbled enough logged time to amount to 1 percent of the entire system usage. Chat's product spoke the language of early online community adopters, and this relatively small group of users was spending a vast amount of time online, interacting with the world and its people. Like Habitat was a huge hit-in-the-making. In the fall of 1988 the beta was taken to a nightclub for a launch party as Lucasfilm Games and Q-Link prepared to revolutionize gaming.

But a problem lurked.

Essentially, if 500 users were hooked on playing Habitat that they required enough to eat up 1 percent of the network's system bandwidth, a full-run production would attract Rabbit Jack's Casino numbers.

CHAPTER TWO THE FASHIONABLE AVATAR

"Oh brother," Whelms whispered to Praxilla, "here comes the fashion show again." Praxilla looked over to see a devastatingly handsome barford strutting up in the latest Oxy De La Brother style. "Who does he think he is?" Whelms asked.

"The city is his gift to Avatar," Praxilla sighed, stars in her eyes. "He's the gift to Avatar."

One of the really fun things you can do when you enter Habitat is customize your appearance. What you get to help you in this task is a customization program allowing you to make the kind of alterations that would make a Beverly Hills plastic surgeon cry. It will automatically be put into the customization program the first time you enter Habitat. Just follow the instructions it gives you and you'll be done.

Choosing words is like utterance. Avatars never go around uttering. In fact, their clothes are part of their bodies. It's easy to change your Avatar's appearance though: just use a handy bank of appearance body parts. These can be purchased down at the General Store, or you can borrow one from a friend. While you are holding a server, you can change the coloration of different parts of your body by pointing at them with the cursor and choosing the DO command.



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You can also change your Avatar's head. New heads can be gotten at a Head Shop, though they are often quite expensive—and the more exotic a head is, the more it will cost you. You can remove your Avatar's old head simply by GETting it into your hands—just point at the head and choose GET. Then PUT your old head down somewhere and GET the new one. Once you are holding the new head in your hands, you can PUT it on your shoulders by pointing at yourself and choosing PUT.

Although you can remove your head at any time, it is considered extremely tacky to wander around the world headless. The sight of a headless Avatar can be quite upsetting to some of the younger, more liberal citizens of Habitat.

Some common styles of appearance in Habitat appear below.



22

that bandwidth number to 30 percent. "The way the system was built, the server software wasn't capable of hosting that population while still being successful," recalls Arnold. Ultimately, these business challenges caused Habitat to be cancelled after the launch party, but before it had gone into full production and reached retail shelves. It would simply be too popular, and the necessary server fix would be too expensive to make the project viable. And so this massively original, inventive, and cutting-edge project was shelved for U.S. release.

From a business perspective, however, Habitat wasn't a failure. The game was licensed to Fujitsu for use on its FM Towns PC-like platform, and the successor to Habitat was recast (with several of the original planned features now cut) as Corpe Caribe, described as an online Club Med, where it enjoyed some success. Though Habitat never received a

commercial release in the United States, Lucasfilm Games was able to recoup most of its development costs through these side deals. As for Quantum Computer Services, in 1989—just a year after working toward a launch for Habitat—the company changed its name to America Online.

The pioneering work on Habitat by Chip Morningstar and Randy Farmer, the two programming gurus who had built the system infrastructure, earned them a First Penguin Award at the Game Developers Choice Awards in 2001. Conceived by co-worker Noah Falstein, the award has been given annually since 2001 "to recognize the courage and bravery of a developer who tested the proverbial waters, uncertain of success or failure. A 'First Penguin' served as a lesson, and inspiration, to the rest of the community over the years."



Above: The MasterBlaster concept was revised and graphically upgraded in 1990 for release on PC and Amiga as MasterBlazer by Rainbow Arts.

Top: A page from The Official Avatar Handbook: A Comprehensive Guide to Understanding Habitat from Lucasfilm Games and Quantum, provided to beta testers in 1987.



Above: Box art for the SCUMM adventure *Indiana Jones and the Last Crusade*. The Graphic Adventure and *Indiana Jones and the Last Crusade: The Action Game* (both 1989).

Right: Disk for *Indiana Jones and the Last Crusade: The Action Game*.

Bottom: These screenshots show how the game played out scenes that audiences had witnessed in the movies, but in a fresh way that resonated with gamers and movie fans.

THE SECOND MOVIE GAME

Even in 1988, a game would take about 12 months to develop, but project leader Nivali Falstein had just eight months before the third *Indiana Jones* movie arrived in theaters. Uncertain that his team could complete the game in time, he drafted designers Ron Gilbert and David Fox to help with Gilbert putting ideas for his own Monkey Island game on hold. Using the SCUMM engine, Gilbert's group designed, produced, and had the team in charge within nine months.

Indiana Jones and the Last Crusade gave a huge opportunity, and brought a lot of new attention that to this point had been mostly negative. In meeting with Steven Spielberg, the game's ambitious ideas got a thumbs up. "I was one of them guys who'd been saying, 'I want to see an Indiana Jones game in the time frame,'" he said.

Giving gamers a chance to experience the adventures of the iconic character was a huge number of design challenges. "I spent a lot of time with the notion of Indy being killed in the game, although Gilbert's own general design philosophy was that the player should never perish. For the action/adventure



ultimately resulted in it being possible to have. As with *Labyrinth*, the trick was to make it compelling and the challenges engaging for those who had seen the movie. Having three settings and a variety of puzzles or set pieces unique to *Indiana Jones* and the *Last Crusade* was one of the best action-adventure games of its implementation of the IQ—the Holy Grail scoring system encouraged gamers to find creative solutions to each puzzle. That was a time that the Holy Grail quest appeared in the game, however. It originally started as the "Holy Jones Quorum" (HJQ) scoring system and was later in Mindscape's licensed *Indiana Jones and the Kingdom of the Crystal Skull* (1984) for Commodore 64.

ACTION AND ADVENTURE

The team was able to develop the game well from the shooting script. As a result, a number

"In the early days at the Games Division, we were begging to do *Star Wars* and *Indy* games, so it was a thrill to be able to work on [*Indiana Jones and the Last Crusade*]."

—Ron Gilbert, designer

The Byzantine Crusader

May 25th, 1938

Weather: Sunny

HOLY GRAIL SEARCH TO CONTINUE!

By Bob Ellis

Dr. Henry Jones was back in killing last night after speaking to the reporter about his continued search for the Holy Grail treasure. New information is believed to have been found by Dr. Jones on his trip to Europe.

There was something very strange about Dr. Jones' search from his home recently after many years of searching for the real location of the Holy Grail.



Dr. Jones' search for the Holy Grail treasure was a long and arduous one. He was recently seen in Europe, where he was believed to have found the real location of the Holy Grail.

GRAIL

was a result of the game that were cut from the movie during the editing process. One example is an extended scene with the radio operators in the airport. "We went to a couple of advanced screenings early on in the process, mostly for amusement to make sure the look was okay," Gilbert recalled. "The game's art design. But we had quite a lot of animation which was above the cut in the game's design."

Players who dug around inside the game box were rewarded with a facsimile of Henry Jones Sr.'s Holy Grail Diary and found clues to solving the game's final puzzle. Though this in-box addition was discarded down the later releases, it helped illustrate the big-picture considerations that would ensure that the *Indiana Jones* adventure game stood proudly alongside its new source material.

Left: A fake newspaper page recounting Dr. Jones' search for the Holy Grail treasure, as the game for *Indiana Jones and the Last Crusade*. The *Indiana Jones and the Last Crusade* game's introduction manual.



Above: Box art for Strike Fleet (1987) Battlehawks 1942 (1988) and Their Finest Hour: The Battle of Britain (1989)

Right (top and bottom): Title screen and aerial combat for Larry Holland's Battlehawks 1942

Larry Holland says he once received an unexpected phone call at his desk inside the Games Division. The caller was Steven Spielberg, who, after chattering for a moment, handed the phone to an assistant who presented the real purpose of the call: to find out the best computer setup on which to play Battlehawks. That PC system would then be installed in all of Spielberg's households so that he could play the game wherever he was.



Simulations—Round Two

After interviewing for a job on the Labyrinth game, programmer Larry Holland was eventually convinced by converting PHM Pegasus from the Apple II to the Commodore 64. By the time PHM Pegasus was available to retailers, a more ambitious sequel was planned, with Holland acting as software engineer and designer. The game that would become Strike Fleet (1987). The simulation was still some spiritual distance from the adventures that were being established as the core of the company. The online experimental project had been with the SCUMM-engine adventure games, which were the dominating most Lucasfilm Games' employees' effort. The simulations formed a niche within the organization.

After a proposed sequel to Strike Fleet was rejected by the original game's publisher, Electronic Arts, Larry Holland pitched to Lucasfilm Games a simulation called Air Wing. Inspired by his research into aerial combat in the Pacific Theater, Holland produced a tech demo for a design that eventually became Battlehawks 1942 (1988). To produce the in-game representations of the real-world planes, the team bought and painted models, mounted them on special rigs, and photographed them. From those shots they created images on acetate overlays that they placed over the artists' monitors. Using the imaging paint program of the time, the artists then traced and colored the acetate outlines to create the digital bitmaps used in the game. The five-person development team began work in March 1988, and the game appeared on store shelves in September of the same year.



Their Finest Hour: The Battle of Britain (1989) pushed the simulation genre still further with creative use of the new editor. A contest—Their Finest Mission—had given them their own scenarios with the chance to win a trip to Britain. Some of the missions created through that contest were bundled together on a retail disk, providing one of the first game-expansion opportunities. The team also used the adding extra planes provided expanded value to the audience—and therein discovered a new revenue stream. (Robin Parker, an employee in the marketing department, worked on the packaging for the expansion disks, which had some background research on the World War I era; he ultimately became Larry Holland's wife.)



Pipe Dream

Alongside movie adventure games and simulations, the Games Division continued to pursue what head of development (and later acting general manager) Kelly Flock referred to as "market opportunities." The materials costs of transitioning from games supplied on one or two floppy disks to games on multiple floppies or CD-ROMs had a

significant financial impact on a company of Lucasfilm's size. Opportunistic game development like Pipe Dream (1989) enabled the studio to find a niche with relatively cheap-to-produce concepts such as puzzle games. If they proved to be commercially successful, these properties could be built into a franchise.



Above: Box art for Pipe Dream (1989)

Left: Rough color pass for Pipe Dream's packaging, by Steve Purcell. He designed the plumber character, named Chuck.



CHAPTER THREE

BIRTH OF THE CLASSICS

As Lucasfilm Games ramped up its operations, it hired additional talent, learning the proprietary SCUMM-U language involved graduating from SCUMM-U—the training university in which new designers enrolled to become familiar with the toolset. Students at SCUMM-U were labeled “Scummlets.”

Full Throttle designer Tim Schafer and Day of the Tentacle co-creator Dave Grossman were two of its first students and graduates. (The dubious honor of being referred to as a Scummlet was dropped only after becoming a Project Leader.) The initial training period lasted a month, after which each Scummlet was required to create a mini-game using the tools they had learned, and then swap games to fix problems they discovered in the scripting system.

“It was probably the greatest job of my life,” says of this time, “No one in history has ever had a better time than being a Scummlet at Lucasfilm Ranch” in 1989. We were very proud of the ‘Scummlet’ and didn’t even think of leaving.”

Working with SCUMM still presented challenges, though. Besides being functional, it was, as Grossman describes, “a highly useful, astonishingly useful tool for making great adventures. We were the guinea pigs, along with Jen Sward and Ron Baldwin.”

At the time, none of the designers were using the SCUMM engine were using the gameplay methods crafted using the engine. help establish rules and mechanics for the genre that competitors would try to match to come. “Our goal was to do something



designer Ron Gilbert recalls. “We still had pressure from Lucasfilm not to waste money—we were far from an entry tower—but a vibe ran through the company that we always had to be the best.”

In that spirit, development began on The Secret of Monkey Island (1990). For as long as history records the greatest moments in PC gaming, a special place will be reserved for Gilbert’s seminal adventure game. Using a maturing SCUMM engine—plus the design and writing input of Schafer and Grossman—the original Monkey Island earned rave reviews upon its initial launch on the Amiga. Subsequent PC releases expanded the game’s limited 16-color palette to an enhanced 256 colors, and then allowed full audio integration when Secret was released on CD-ROM. All the while, the game’s reputation endured—and grew.

“The pirate theme came from one place: I hated fantasy.”

—Ron Gilbert

Writing consistently funny, high-quality comedy is supremely challenging, but the talented team executed it with distinction. The adventure story, its style, and its memorable situations immediately struck a chord with gamers. Wannabe-pirate Guybrush Threepwood stumbled into the gaming spotlight as the hero of Monkey Island, ingratiating his carefully crafted demeanor into the consciousness of every player who followed his exploits.

“The pirate theme came from one place: I hated fantasy,” explains Gilbert.



Above: Box art for the adventure game that became a legend, The Secret of Monkey Island (1990). Top: Watercolor for a Secret of Monkey Island activity poster, by Steve Purcell.



Fantasy had emerged as a popular genre for gamers. Tabletop role-playing games such as TSR's *Dungeons & Dragons*, Chaosium's *Runequest*, and Iron Crown Enterprises' *Middle-Earth Roleplaying Game* were popular with a demographic that was shifting its attention from pen-and-paper to computers. For potential newcomers to a game setting, fantasy was also fairly easy to explain; little background reading is required to know that orcs are green-skinned bad guys, elves are pointy-eared high-minded guys, and dwarves are bearded miners. Space-based settings present the challenge of having to explain the fiction and technology at work in the gameworld. But the pirate theme had the potential to attract a number of fantasy fans who wanted something a little different.

"Once that idea hit me, the Pirates [of the Caribbean] ride at Disneyland was a natural since I loved it so much," recalls Gilbert. "I also read a book called *On Stranger Tides* [a pirate fantasy novel written by Tim Powers, published in 1988] that solidified much of my thinking about the story."

Guybrush's quest to become a pirate, his meeting with love interest Elaine, and the conflict that emerges with ghost pirate LeChuck are all part of PC-gaming lore. Secrets, humor, puzzles, and lovable characterizations were popular among players, and numerous Web sites delved deep into the origins of every design decision. With the title consistently appearing on Best of PC Gaming lists, its principal designers are frequently asked "What is the Secret of Monkey Island?"—a question they refuse to answer for fear of the monkeys.



Above: Monkey Island series villain LeChuck has appeared in many forms, including ghost, zombie, demon, and stone giant. These drawings of LeChuck from *Monkey Island 2: LeChuck's Revenge* (1991) are an example of how artists Sean Turner and Peter Chan layered variations of LeChuck's eyes on top of a barrel image to explore his emotional range.

Opposite: Pencil sketch for *The Secret of Monkey Island* (1990) cover painting, featuring Elaine Marley (left) and Guybrush Threepwood (right, with sword), by Steve Purcell.

Famed science fiction author Orson Scott Card was involved in the writing of *The Secret of Monkey Island*, creating the dialogue for most of the insults flying to and fro in the sword fights.



Top: Monkey Island 2: LeChuck's Revenge (1991) was released just a year after the original game, and built on the growing legend of Guybrush Threepwood.

Above: Screenshot of Monkey Island 2: LeChuck's Revenge showing Guybrush Threepwood in a village setting.



The "Secret" of Monkey Island

Ron Gilbert's favorite joke in *The Secret of Monkey Island* is the Stump Puzzle. Look at a tree stump and you're asked to insert disk #22. Of course, there's no disk #22, so tech support was down crazy by the time calls from gamers complaining that their game contained a disk 22. The "joke" was that the game's stump area simply did not exist, and gamers spent hours at the puzzle for what amounted to nothing. Future Monkey Island games also removed the disk, although it was removed from the CD-ROM version.

MONKEY ISLAND 2: LECHUCK'S REVENGE

In just a year the team was able to get a sequel, *Monkey Island 2: LeChuck's Revenge* (1991), onto store shelves. It seems like an almost impossible feat to modern game production teams, but it was common—relatively straightforward, even—for the team at Lucasfilm Games (which had become a division under the newly formed LucasArts Entertainment Company in 1990) alongside IBM and others, who were increasingly well-practiced with the SCUMM toolset.

"A graphics adventure was more like puppet theater than a film-quality cinematic extravaganza, and the story and puzzles required far fewer resources to implement," recalls designer Dave Grossman.

The first two *Monkey Island* games were incredibly detailed and creative, yet, from a technology standpoint, they weren't particularly complex. Thus, the developers could quickly test great new ideas for dialogue, situations, or even puzzles right up to within a couple of hours before the game needed to ship. Manpower resources were similarly tight, as the designers worked in small groups—bouncing ideas, puzzle concepts, and story features off each other. As you might imagine, packing the creative talent required to produce games of such quick wit into one small room had benefits... and challenges. "Those sessions often became hilarious enough to be dangerous, with me automatically coughing up my own brain from laughing too much," recalls Grossman.

The artists for the project were located on a different floor from the designers, requiring frequent trips to see what they had produced. Though *Monkey Island 2* was slightly bigger in scope, the team was about the same size as the original team, with the



Left: Codewheels for *The Secret of Monkey Island* (top) and *Monkey Island 2* (bottom) revealed codes meant to thwart software piracy.

Dave Grossman claims that he was at Lucasfilm Games (and then LucasArts) longer than Tim Schafer: "I got there a little early on the first day, and the person I was supposed to meet hadn't shown up yet, so I took a stroll around the building, during which time Tim Schafer arrived—it was also his first day. Eighteen years later, we still argue about which of us came to Lucas first. But it was me, by several minutes."

Pages 52–53: A test background painted in gouache, by Steve Purcell, circa 1990. "In *The Secret of Monkey Island*, we started with 16 colors. For *LeChuck's Revenge*, we had all the colors we needed," says Purcell.

addition of one scripter and a couple of artists. The game did introduce a technological change: for the first time, the background art was drawn by hand on paper, then scanned into a computer, rather than being drawn directly on a computer using the available tools. Grossman recalls their scanner costing as much as a car, which meant the scanning of his own photographs to turn into desktop wallpaper had to be done after-hours. This new technology did, however, allow the artists to craft significantly more detailed new scenes that could now be simply merged into the game environment.

(continued on page 54)





Above: Box art for the PC release of Monkey Island 2 (1991)

Top, left: Concept art for Phatt Island (by Sean Turner, circa 1990), which appears in Monkey Island 2

Top, right: Pencil sketch of monkey from Monkey Island 2 (artist unknown)

Opposite: Concept art for Monkey Island 2 packaging by Steve Purcell

Now better-versed with the tools, they focused on tweaking gameplay and evolving quirky characters. In the sequel, Guybrush returned to recovering the treasure Big Whoop took, rekindling the romantic spark with Elaine. Meanwhile, the addition of a new difficulty setting meant that gamers could make it easier to solve the puzzles successfully. An option dubbed "Monkey Island Lite" limited a few choices, but was the first time a company had managed to make an adventure game easier for a more casual audience. The success of the original Monkey Island kept a hardcore gaming audience eager for more challenges, but this new feature made the series less daunting for newcomers. In addition, Monkey Island 2 was the first commercial airing of Michael Land's iMUSE sound engine (see sidebar page 65), which contributed to the game's impressive critical reception. But still, nobody knew the secret of Monkey Island.

(continued on page 61)



Tim Schafer's Job Interview

David Fox was director of operations when Tim Schafer applied for a job at Lucasfilm Games. For nearly two years, Schafer's résumé stood out from the pile of others in front of him. Rather than trot out the usual list of previous jobs and experience, Schafer's CV was a hand-drawn cartoon telling the tale of how he got chosen for the job, illustrating just how happy he would be. Because the company wasn't necessarily looking for game programmers—thanks to SCUMM! the consensus was that these skills were teachable—and creativity were far more valuable commodities.

Tim Schafer recalls the application process. "I wrote a normal résumé at first, but then I blew my phone interview. David asked if I had played any Lucas games, and I said, 'Of course! I love them all! My favorite was Ballblaster!'

"Ballblaster, eh?" he said.

"Yeah, I loved that game!"

"Well, I think you meant to say Ballblaster Ballblaster was what they called the pirated version."

"Whoops! I had, in fact, pirated the game. And now he knew that. And it might have cost me my job. Let that be a lesson to you, kids! Don't pirate games!"

"But still, he said, 'Well, why don't you write me a résumé, and a cover letter describing your skills?'

"I figured I had blown the interview already, so I had nothing to lose. So I made a cover letter in the style of a text adventure, with little graphics added in. I drew all the graphics on my Atan 800 with a Raster





Above: Loom delivered ingenious graphics alongside its technical innovation.

Right: Sound effects had never been used so much, an important gameplay mechanic as they were in Loom.

Far right: Bobbin for the final mission in Loom in 1990.



Loom



The continuing spirit of innovation at Lucasfilm Games allowed a new adventure-game property called Loom to enter production for the PC. Though it followed adventure game traditions in delivering its story—a fantasy tale starring Bobbin Threadbare—it used original techniques to solve puzzles. When his fellow members of the Guild of Weavers disappear on his 17th birthday, Bobbin heads off to find them. But rather than collecting items in an inventory and combining them to generate new functions, he has to play musical notes on a staff. These musical puzzles required hearing all the clues and noting the sequences, for which a book was included in the game box.

Also packaged in the box was another first for adventure games. To set up the story of this fantasy world, an audio tape served as a preamble, letting you listen to the characters introduce the plot and situation before diving into the game's point-and-click format. Sci-fi author Orson Scott Card contributed dialogue for the PC CD-ROM release of Loom, which didn't require the audio cassette,



Night Shift

In a written interview to Film Dream (1989), Night Shift (1990) was a puzzle game, but it illustrated Lucasfilm's clear self-awareness and ability to poke fun at anything, including itself. The premise was to keep the assembly line moving at a

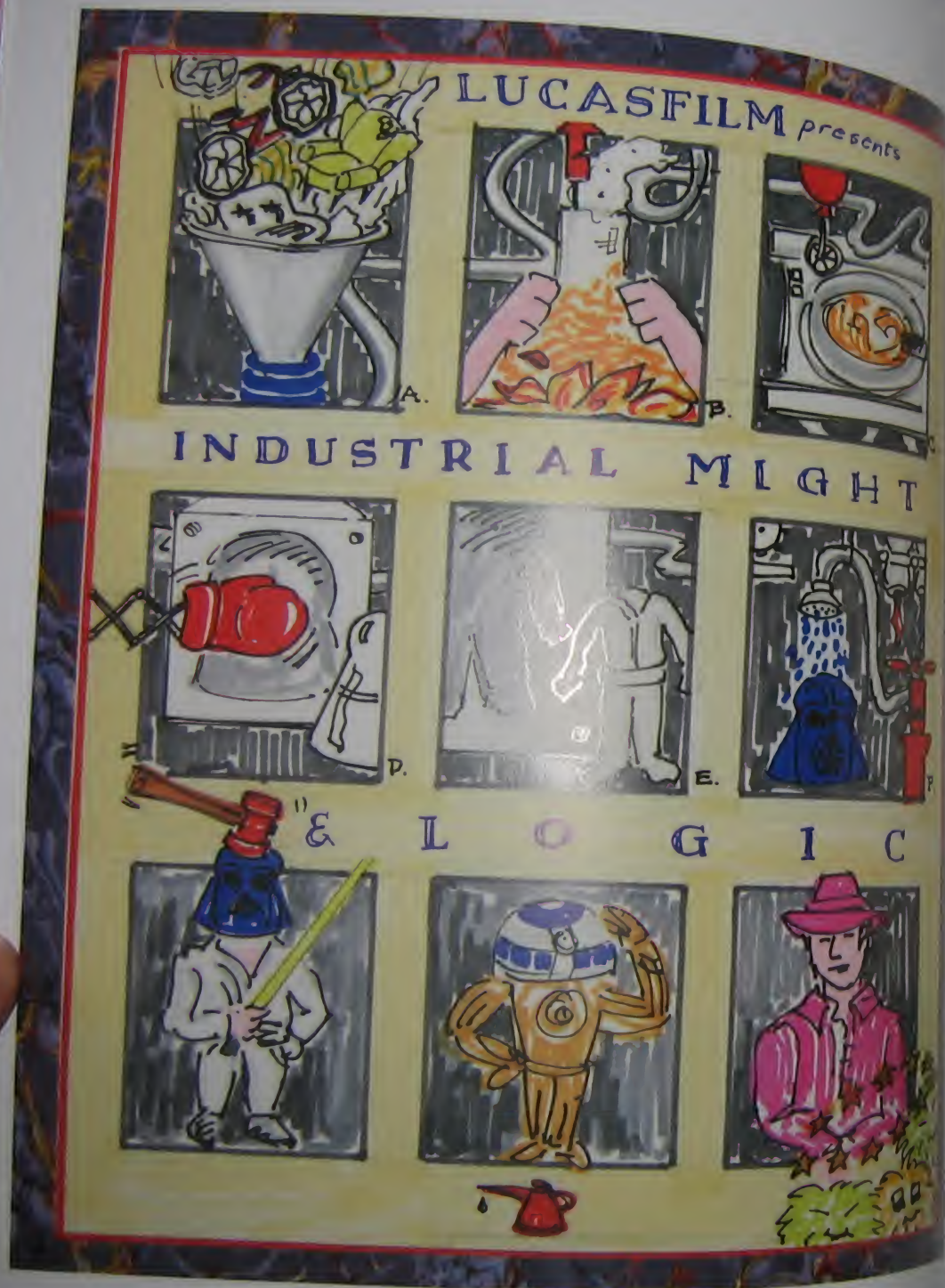
facility called the Beast. This conveyor-belt mechanism is owned by a company called Industrial Might & Logic, which churns out Star Wars and Indiana Jones toys.



Left: Character design for Night Shift. Right: Cover art for Night Shift.

as there was enough disk space to accommodate all the data. While Gary Winnick created most of the game, the Games Division also used artists from LSI, making project one of the first crossover opportunities between two Lucasfilm companies.

Though Loom wasn't initially intended to be part of a trilogy, once it was completed, designer Bill Buxton considered additional directions for the story. Buxton was created for a second game, tentatively titled Loom II, as well as a third game. The Fold, which would have rounded out the series. However, Loom II never materialized, and the series moved on to other projects (including Monopoly, which crafted the design of the first iteration of the game, see page 91).



Setting the Table

As an independent contractor, Larry Holland named his business MicroImagery in 1984, and eventually changed it to Peregrine Software. Yet within two weeks of proudly displaying the new name outside on a plaque, the software developer had all his computers stolen during a break-in, as thieves jammed the door to the office next door and cut a hole in the wall to the Peregrine office. Though it's often thought that Holland was a longtime employee at Lucasfilm Games and LucasArts, he always maintained his own company and produced all his work as an independent contractor.

One of his proudest achievements, on the heels of Strike Fleet and Battlehawk: 1942, was Secret Weapons of the Luftwaffe (1991). Holland confesses to feeling the "magical" of trying to make the game to end

all games." His massively ambitious design involved taking the core flight-simulation mechanics of the earlier games and adding a full strategy element of manipulating the war effort, alongside a marvelously robust mission editor. Even with the team boosted to two programmers, a producer who became the mission designer, and two artists, it took much longer than anticipated. Holland took an office inside the Lucasfilm building, and often slept on a couch. The commitment of a yearlong crunch paid off with what producer Kalani Streicher described as the game that "really carved out what simulators should be, and how fun, and with all the different missions you could accomplish with the A.I. acting as your wingman."

Better still, the underpinning core technology combined with the clear ability to produce critically acclaimed story-driven games happened to coincide with the expiration of the publishing license with another company—thus creating a terrific opportunity for a new Star Wars project. Holland had just the game in mind, but it would have to wait a couple of years.



Opposite and top, left: Team artists went to town on the concept art used for Night Shift (1990) to showcase the assembly line of Star Wars and Indiana Jones toys produced at IML.

Top, right: Final box cover for Night Shift.

Left: Box art for Secret Weapons of the Luftwaffe (1991).

Bottom: Larry Holland packed a vast amount of content into his WWII flight sim Secret Weapons of the Luftwaffe.





Nurse Edna Timmy Weird Ed



Bernard Hoagie Chester

Right: Concept sketches showing more detail of characters who would appear in Maniac Mansion 2: Day of the Tentacle (1993; artist unknown)



Above: Box art for Day of the Tentacle (1993)

Top, left: Chron-O-Johns really don't seem like a safe means of transport for Bernard and friends.

Top, right: An in-game joke referencing Guybrush Threepwood from the Monkey Island series.

Day of the Tentacle was Grossman and Shafer's first turn as codesigners, which added extra pressure (though only half of what a full lead designer endures). Rancula Schafer: "I remember telling the team, 'I'm usually not this much of a jerk. I'm usually a lot of fun!'"

CLASSIC EVOLUTION

Just a handful of designers were helping to establish the benchmark by which all other adventure games would be judged for many years to come. While the team understood that its work was popular with the gamer community, the success didn't resonate down to the ship floor in a way that might affect game-design decisions. A passion for graphics-adventure excellence was shared by the cooperative of young, enthusiastic team members, as ideas were bounced around design meetings and in shared offices. It was a highly collaborative process.

Building on the core premise established in its successful predecessor, Maniac Mansion 2 went into production with a subtitle that ultimately eclipsed the original name: Day of the Tentacle (1993). Designed by Dave Grossman and Tim Schafer, the sequel's plotline was extremely bizarre. It was also hilarious. When the purple tentacle becomes a crazed genius, Bernard, Laverne, and Hoagie are sent back in time to prevent the tentacle from drinking the contaminant that caused the transformation. An accident sends Hoagie 200 years into the past, however, and Laverne 200 years into the future. Consequently, the player, as Bernard, has to use the Chron-O-John to hop back and forth through time to save the day. "I'm fairly

certain that the Chron-O-Johns were Tim's idea," recalls Grossman, "because I remember laughing my butt off when he suggested them."

Grossman considers Day of the Tentacle his best work—quite a statement given that his résumé includes contributions to many seminal adventure games. He describes the game's visual style, its humor, and the creativity of its puzzles "all working together to support the idea that you're living inside of a Chuck Jones-style cartoon." A similar description could be applied to yet another certifiably classic adventure game that LucasArts released the same year: Sam & Max Hit the Road (1993).

Office Whipping-Boy

How did this creative group of staffers keep themselves amused? Dave Grossman recalls an incident where someone came close to putting his eye out: "Steve Purcell kept an enormous bullwhip in the office. He'd had it specially made while he was an artist working on Indiana Jones and the Last Crusade, and he learned to use it so he could animate Indy effectively. (At least, that was his excuse.) Once in a while he'd take it outside and whip the tops off of weeds, and he'd try to teach other people how to do it. One of the other artists gave it a whirl one time and managed to accidentally whip his own glasses off his head."



"I remember telling the team [on Day of the Tentacle], 'I'm usually not this much of a jerk. I'm usually a lot of fun.'"

—Tim Schafer, designer



Arts and designer Steve Purcell's characters had garnered critical success and attention through their published exploits in comic books produced by various publishers. It was natural for LucasArts Games to borrow characters, but the company's decision to develop a "Sam & Max" game was not.

Shamus and Max, a hyperkinetic rabbit thing, was mainly concocted with gamers. Their exploits as two-lap police in search of a runaway Bigfoot blended cartoon graphics with mature, decidedly adult-leaning humor. Sam & Max Hit the Road was examined with memorable one-liners and proved to be a huge critical success.



Naturally, sequels were planned and three different versions began production at LucasArts: the last of which, Sam & Max Freelance Police, was officially announced in 2002 but then cancelled as it closed on its scheduled release date. "I had the dubious honor of working on the first of three unfinished sequels to Sam & Max," says Greenman. "We ran out of time a few weeks into it before something made the call that working on an adventure game property

Above: Plot art for Sam & Max Hit the Road (1993/1999)

Left, top: Steve Purcell's comic book detective duo made a natural switch to the game space in Sam & Max Hit the Road.

Left, bottom: The cartoon rabbit duo brought laughs (as well as puzzling challenges).

Opposite: Concept sketch of the Macrae Mansion used in the former Star Wars movie. From the LucasArts Archives, circa 1992.

Binky Island and dig up the treasure, 2 To get from the rusty rudder to buried at the polluted spring.



Above: Steve Purcell's Sam & Max Freelance Police comic ran in issue #1 of the Lucasfilm Games fanzine *The Adventurer* in 1990.

Right: Blue-pencil sketch of Sam from Sam & Max Hit the Road, circa 1992 (artist unknown)

that didn't actually belong to the game. "I didn't see the opportunity that made the most of the music," (The characters have since been seen in a series of critically acclaimed episodic games produced by Telltale Games, where Grossman is the design director.)

The SCUMM engine was proving to be a remarkably flexible tool for delivering high-quality scripts. Point-and-click adventures permitted the developers to scatter innumerable in-jokes across the game's locations. Scanning the mouse across each scene, looking for hotspots that revealed a funny line or reference, became an intrinsic part of the gameplay for many fans. Once again, the social collaboration of the tight-knit team clearly contributed to a creative environment. "It was a fun place to work," Schafer says, likening the spirit among the



staff to the frat house in *Rampage*. "It was like, 'We were explosions of disc-gun humor. It was like, 'Oh, because disc-guns hurt you. They really hurt when you get hit by a disc-gun.'"



MUSICAL INTERLUDE

Videogames expect special visual effects in their games. The ability to take players off-planet or back to fantastical homes requires a setting that conveys image credibility. For adventure games—where story, character development, and pacing all combine with the visual to portray memorable situations—one often-overlooked touch point is music. Just like in the movies, *Star Wars* is a perfect illustration: a game's soundtrack can help define a scene or underline the emotion. The technology at work in the early days of videogames limited the options available, but it also led to creative solutions, such as the preamble introduction to *Loon* (1990) being delivered on an audio cassette packaged in the game box.

For Lucasfilm Games, those limitations changed when Michael Land devised iMUSE (Interactive Music Streaming Engine). After hearing—and being a little disappointed with—how the music in *The Secret of Monkey Island* jelled with the gameplay, Land developed this new system, which revolutionized the treatment of music in SCUMM-engine games. "It was just pure genius," SCUMM creator Ron Gilbert says of the innovation. "I wish I could claim credit for it."

Eventually, iMUSE enabled in-game music to transition seamlessly between tracks in reaction to whatever the player was doing. In movies, music is paired to match the on-screen action. The freedom of movement that a game affords, however, means that the designers don't know where players may move or how they may act, so musical cues can't be predicted in advance. But iMUSE allowed the composers to feed out numerous transitions, mix effects, and judge how they might sound as parameters based on the player's actions.

"[iMUSE] was just pure genius. I wish I could claim credit for it."

—Ron Gilbert

iMUSE-ing

"Prior to iMUSE, if you walked into a room in a graphic adventure, it would trigger a static tune and it would always play that same tune whatever you were doing in that room. Michael's system allowed [the designers] to look at how many times the user had been in the room and what he was doing, and make the music play along with that or trigger sound effects that were appropriate. So he could build up suspense using audio, which you couldn't do in the past," says Kelly Flock, acting general manager at Lucasfilm Games.

"Michael used to joke that iMUSE would have been the perfect technology for telephone on-hold music because it would never repeat or get boring," recalls Ron Gilbert, designer, *Monkey Island 2*.

The first commercial airing of the iMUSE system was in 1991's *Monkey Island 2: The Revenge of Thelma*. "The [score] starts at the beginning and ends at the end of the game, and is just one ever-evolving piece of music," says Gilbert, describing the musical progression that matched the game flow depending on how the player acted and the speed at which he advanced.

On the business end of iMUSE development, rather than license the technology for use by other game companies, Lucasfilm patented it for the publisher's own games. It protected the technology that helped high-quality game music become a signature feature of SCUMM-based adventure games. "It was critically important to the success of [our] graphics-adventure games in terms of creating immersion and atmosphere," said acting general manager Kelly Flock, "and probably the single most important technology that was developed [at Lucasfilm Games]."

(continued on page 69)



Above: In fall 1990, Lucasfilm Games released the first issue of its own in-house magazine, *The Adventurer*, featuring *Secret Weapons of the Luftwaffe* on the cover. This publication's 13 issues (the last issue is #14, as #13 was skipped) featured employee Q&As that brought fans inside the LucasArts family. *The Adventurer* appeared twice a year until its winter 1998 issue signaled the end of its print production. The emergence of this Internet ad marketing message delivery method provided access to the key fans that the magazine had targeted.

Top: iMUSE gave aural pacing to games such as *Monkey Island 2*. Pages 66–67: Concept sketch of Bosco's, part of the world of Sam & Max, by Peter Chan (March 1993)



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19 MAY 92
at Spidersoft.

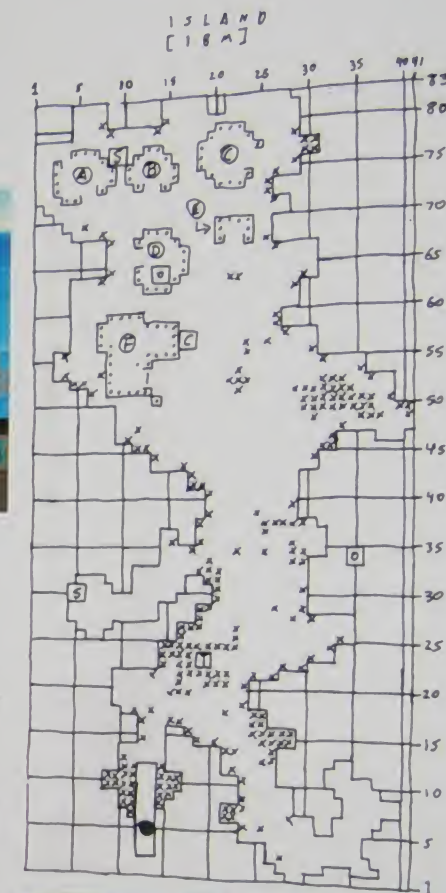
- 1 INDY, SOPHIA AND ENEMY CHARACTERS WALK IN MID AIR (LEVEL 6).
- 2 GAME CRASHED AFTER COLLECTING ITEMS DURING FIGHT WITH NAZIS (LEVEL 6)
- 3 ORICHALCUM'S DON'T GO DOWN WHEN USED DONE
- 4 EXIT INVENTORY MODE BY USING SPACE WHICH IS PAUSED TO USE ITEMS IN INVENTORY (BY PRESSING SPACE BAR ITEM WILL BE SEEN THEN USED IF PRESSED AGAIN. INSERT 'QUIT GAME' KEY DONE
- 5 THE FOLLOWING IS A LIST OF POINTS NOTED IN RAPID FILE 141 ARE BEING WORKED ON AT PRESENT
47, 60, AWAITING NEW GRAPHIC 31, 65, 1, 42, 55, 66
CHECK AFTER MASTERING
- 6 TO QUIT GAME PRESS (H) TO PAUSE GAME THEN X KEY TO QUIT.



After Fate of Atlantis, another sequel was planned: *Indiana Jones and the Iron Phoenix*. This plotline involved exiled Nazis hiding in Bolivia, discovering a way to resurrect the Führer from his ashes. However, the German market was an increasingly significant factor in the publishing of adventure games. Though Nazi themes were permissible, a story involving a revived Hitler — or a simmering Nazi regime prepping to resurface from its hideaway in a South American country — likely wouldn't make the cut, so the game was cancelled after spending 15 months in development. However, the story was picked up by Dark Horse and turned into a four-part comic-book series, released in 1994.

A similar fate befell yet another game, *Indiana Jones and the Spear of Destiny*, which was due to be developed by an external studio. This one involved the recovery of the mythical spear that was used to pierce the side of Christ at the crucifixion (an obvious target for the religious artifact-obsessed Nazi leader). It was cancelled before production advanced significantly, and then, as with *Iron Phoenix*, was released as a comic-book series by Dark Horse in 1995.

← COMPASS



- [A-F] - MUT:
 O - JAIL
 P - CHIEF'S HUT
 C - CHIEF
 S - SHARK TEETH
 D - RANDOM OBJECTS
 X - STARTIN POINT

Above: Sketch map of the Atlantis game progression with indications of key events.

Far left: The evolving SCUMM engine allowed greater interaction with the game world, as seen in this *Indiana Jones* and the Fate of Atlantis screenshot showing Indy donning a diving suit for an underwater excursion.

Left: Publisher Dark Horse Comics released comic book versions of *Indiana Jones* story ideas (*Indiana Jones and the Iron Phoenix*, 1994, and *Indiana Jones and the Spear of Destiny*, 1995) that were not made into games.

Opposite: A bug report dated May 19, 1992, from Spidersoft, the company porting *Indiana Jones* and the Fate of Atlantis to the ZX Spectrum system.





Above: JVC published Lucasfilm Games' first internal *Star Wars* games for NES in 1991 and quickly followed with *Star Wars: The Empire Strikes Back* in 1992.

Right: The Swedish poster for *Star Wars* (top) and the American poster for *The Empire Strikes Back* (bottom).

ENTER STAR WARS

Fourteen years after the first *Star Wars* movie made millions of fans dream of living in that galaxy far, far away, and nine years after Lucasfilm Games was formed, the studio developed its first *Star Wars* game. At the time (1991), videogame publishing rights were owned by JVC, which meant that Lucasfilm Games' risk was minimized. Lucasfilm received a licensing fee from JVC for the rights to do a *Star Wars*-based game, and, as part of that arrangement, Lucasfilm would work on game design and production. The corporate entity would have approval over the creative services, as they contracted an outside studio to provide the core technology programming.

However, publishing games on the NES platform involved significant risks given the costs required to finance a game. Each game cost \$24 to \$28, and it had to be bought upfront, meaning to acting general manager Kelly Flock, the deal with JVC included a guaranteed advance of about \$1 million, for which six games would be produced. With an estimated budget of \$80,000 to \$100,000 per title, this arrangement allowed Lucasfilm Games to enter unfamiliar territory—console-game development—with some financial cushion to handle any problems that might emerge.

Lucasfilm approached Australia-based Beam Software to use its knowledge of the Nintendo platform to provide the game programming, while the two companies worked collaboratively on the game's design. This process of external studio management introduced new issues for Lucasfilm Games. In August 1990, Kelly Flock was shown a videotape of the game slated for a September release. Having



Above: Issues 42 and 53 of *Nintendo Power*, featuring *Super Star Wars* and *Super Star Wars: The Empire Strikes Back*.

Top, far left: Screenshot of landspeeder level from NES *Star Wars* (1991).

Top, left: Screenshot of Luke Skywalker finding Obi-Wan Kenobi in a cave level.

"[For *Super Empire Strikes Back*] we really went off the deep end with canon and authenticity."

—Jon Knoles, animation supervisor

previous experience working with the new console system while at Activision, Flock realized that the game would not be ready to ship in a month. Requests to Beam to add new features resulted in continued delays, as everyone learned that bringing the usual *Star Wars* movie experience to the limited memory capacity of the NES platform was simply too much for the system. At the 1990 Consumer Electronics Show (CES), a new release date of March 1991 was set. To help ensure that the game requests were viable on the platform, Flock flew to Beam's offices to shepherd the game to the finish line.

The ambition to recreate every significant *Star Wars* movie action scene was abandoned in favor of using key gameplay scenes into the 128K available on the NES. Ultimately, when *Star Wars* shipped, broad recognition helped it perform well in retail.

Meanwhile, by late 1991, Nintendo had released its new console—the Super Nintendo SNES—in North America. Development of the game sequel *The Empire Strikes Back* (1992) on NES was completed by Utah-based Sculptured Software. At

the same time, the opportunity surrounding the new system attracted Lucasfilm Games' attention, and so *Super Star Wars* was put into production, also to be developed by Sculptured Software. Both games were released in 1992. Since interest in the NES platform was waning, plans to produce a *Return of the Jedi* game were shelved in favor of focusing attention on the new SNES market.

Up to this point, many Lucasfilm Games employees had come to the company with the desire to produce SCUMM engine-type games. These funny, stylish, snappy adventures encouraged creative designers to apply for a position so they could develop that kind of game. While the Lucas name might imply internal development teams cranking out *Star Wars* games, the Lucasfilm Games brand had expertly established its own identity and commercial popularity. But now the company's shining family jewel was on the table for internal development, and the in-house designers could turn their creative attention to this fresh opportunity. So for *Super Star Wars*, the actual game design was crafted in-house, while



Above: Box for Super Star Wars: The Empire Strikes Back (1993).

Top: Screenplay of Super Star Wars: The Empire Strikes Back.

Right: Screenplay of Luke Skywalker's training sequence from Super Star Wars: The Empire Strikes Back.

Bottom: Screenplay of Luke Skywalker's training sequence from Super Star Wars: The Empire Strikes Back.

the project, and the... of working with the... handled by... and...

Consequently, the... of the game design allowed Luke Skywalker's actions that he didn't have in the movies. As Luke learned the force, we could add additional gameplay—things like freezing enemies or making them run away in a confused state. “In this area, we really went all the way and with reason and authenticity,” explains Jon Knoles, animation supervisor on the Super Nintendo games.

But that was okay. A distinct separation was made between maintaining the canon of the characters and galaxy, and empowering designers to craft games that would appeal to an audience wanting to



take these roles beyond what they'd witnessed in a movie theater. Also, at this time, the relatively crude visual effects created a clear separation in the audience's mind between a small-screen interactive game and a big-screen blockbuster.

The experiments with 16-bit gaming on the Super Nintendo (the original NES was an 8-bit machine)



concluded with Super Return of the Jedi (1994), which delivered the final part of the trilogy and the culmination of Lucasfilm's deal with JVC. (For information on the sixth JVC game, Rebel Assault, see Chapter 4.) Working up the console learning curve wasn't cheap, however, and the final cost to produce these games far exceeded the initial \$1 million licensing advance. Fortunately, gamers are up to the opportunity to play with the characters they loved on the latest console system, and each game was a critical and commercial success.



Above: Box covers for Super Star Wars: The Empire Strikes Back and Super Star Wars: Return of the Jedi.

Top, far left: Screen image of Obi-Wan Kenobi from Super Star Wars: The Empire Strikes Back.

Top, left: Image used for the opening of Super Star Wars: The Empire Strikes Back.

Left, top: Screenshot of Luke Skywalker gathering hearts to regain his health, from Super Star Wars: The Empire Strikes Back.

Left, bottom: Screenshot of Luke Skywalker on a reolator, from Super Star Wars: The Empire Strikes Back.

The Super Nintendo platform introduced Mode 7, a technique of realistically scaling and rotating images to create a sense of 3-D. Designers were thus able to craft a game that brought even more of the movie world to life.



CHAPTER FOUR

SHOOTING FOR THE STARS

1993-1995

Corporate-level changes were afoot in the halls of the Lucas companies. By 1993 Lucasfilm Games had become a part of the newly formed LucasArts Entertainment Company, while Industrial Light & Magic (along with Skywalker Sound) became the new Lucas Digital.

At the announcement of the new company structure, emerging design star Tim Schafer wanted to ensure that the Lucasfilm Games group wasn't lost in the shuffle. By gluing glitter in the form of the new company logo onto fez-like hats and walking into the meeting wearing those hats, the employees ensured that nobody could forget that alongside the cutting-edge technology development of ILM and Skywalker Sound, a vibrant creative group was making popular games within the growing company.

THE CD-ROM REVOLUTION

Taking charge of its own destiny, LucasArts management restructured its distribution deals to give clearer, more controlled avenues into the retail space. These behind-the-scenes business moves laid the foundation for the company to publish its first *Star Wars* game without the need for a JVC license. Electronic Arts to pull the distribution strings. The new setup placed the entire business operation of games development in the hands of LucasArts. In 1993 *Star Wars: Rebel Assault* was released to an unassuming gaming public, and in the process helped define the emergence of the multimedia CD-ROM technology was now available to home PCs, and LucasArts had just the title to make a gamer want to upgrade.

Part of the origins for this game came from overseas. LucasArts already had a spare development



game called *PlanetSide* in development at Psygnosis in the United Kingdom, with JVC set to publish it. The plan was for this game to be licensed to Fujitsu for its FM Towns PC system. Fujitsu wanted to generate original content for the PC platform in its own highly competitive market, and, recognizing the global brand attachment of *Star Wars*, the company had entered into an agreement that resulted in several LucasArts titles being ported for release in Japan.

Like Minds



Kelly Flock, George Lucas was seeking a leader to shape the long-term future of the company, and Brian Fargo, Interplay's head of development, had been identified as that person.

At the time, Interplay was establishing itself as a rising force in the still relatively young videogame-

Prior to the formation of LucasArts Entertainment in 1993, the Lucas companies had investigated a merger between Lucasfilm Games and Interplay, a game studio-turned-publisher. According to Lucasfilm Games general manager

publishing industry, and its franchises had strengths similar to those of LucasArts. *Bard's Tale* (1985) was a popular role-playing series with great storytelling akin to *Monkey Island* and *Maniac Mansion*; *Battle Chess* (1988) was a real-life version of the *Millennium Falcon*'s 3-D chessboard, and it shared the humor of LucasArts' games; and an emerging relationship with Paramount Studios to produce games based on the *Star Trek* universe—beginning with *Star Trek 25th Anniversary* in 1992—reflected an understanding of how to work successfully with a popular entertainment license.

But the merger stalled, and Lucasfilm Games, which had been one of several divisions under the LucasArts Entertainment Company banner, took over the LucasArts name.

For one, it called for the filming of new live-action footage in the *Star Wars* galaxy, which caught the attention of George Lucas.

A suggestion emerged from Japan that the *PlanetSide* project should be a real-time shooter, and should be set in the *Star Wars* universe. "We couldn't get a satisfactory design document from Psygnosis, but [they did have] a lot of requests for more money," says then general manager Kelly Flock.

Unwilling to pursue the project under the existing terms, LucasArts broke off the deal with Psygnosis, and JVC was informed that LucasArts would publish this new game itself—which represented a massive risk. For one, it called for the filming of new live-action footage in the *Star Wars* galaxy, which caught the attention of George Lucas. He had been happy to let the *Star Wars* games come to life via sprites and polygonal characters, but if video was suddenly the primary visual production method, the games would start to encroach on the movie space. According to producer Hal Barwood, Lucas was concerned that if movie-like footage was shot, it



Above: Box art for *Star Wars: Rebel Assault* (1993)

Left: As seen in this screenshot, Vinze Lee's engine, overlaying interactive sprites over video, helped revolutionize gaming, and gave gamers a reason to buy a CD-ROM drive in *Star Wars: Rebel Assault*

Left: The original LucasArts logo's "gold guy" had metallic gold flecks.

"We knew we had a hit on our hands when we hiked up the wholesale price just a couple of weeks before we were going to sell [Rebel Assault], and retail ponied up the extra 10 dollars..."

—Mary Bahr, marketing

Right: Vince Lee, who originally worked for his work on Rebel Assault, at his old Summer postcard.



could cause confusion with the film, many players would assume Lucas was somehow involved. Producing a suitable technology was a challenge until programmer Vince Lee, over the course of a weekend, wrote a rudimentary engine that enabled sprites to overlay streaming live video. This meant that the artists could design an in-cockpit outline of the pilot's dials and instruments and then lay that image atop the streaming video to give players the sense of being in a cockpit flying across a landscape that could have been captured straight from any of the *Star Wars* movies.

Lee presented the footage to Lucas, who was mostly content with the way the video shoot had turned out but did have a few suggestions—mainly about the framing of certain shots, recalls Barwood.

By 1993 the sale of CD-ROMs for home PCs was relatively slow. Most off-the-shelf PCs didn't come equipped with a CD drive, despite the growing buzz around the concept of multimedia production. But the coming explosion could be felt, and Rebel Assault was always considered an experimental project. Companies like Mindscape had been packaging older games (including the SCUMM adventures) into CD-ROMs—sometimes including extra video or audio tracks—and were selling an average of 10,000 copies of each product. LucasArts marketing director Mary Bahr recalls the group thinking that

sales of 30,000 to 40,000 copies could be possible for a *Star Wars*-branded CD-ROM game.

Although Rebel Assault placed the player on a "guided" rail, where there was minimal freedom within the game, Vince Lee's innovation of using 2-D sprites atop video footage from *Star Wars* resonated with fans. He created an immersive experience essentially placing fans inside the cockpit. Because the rail-based game format didn't allow for off-course exploration, a practiced player could complete the entire game within a couple of hours. That proved to be a small drawback. The short design kept the cost to develop the game relatively low compared to the people-intensive process required for SCUMM-engine titles.

Rebel Assault's impact was felt all over the games industry—in selling CD-ROM drives to PC owners, in demonstrating full-motion video as a way to blend movie-like quality with computer interactivity, and in proving that a bold experiment could turn into a massive commercial success. "We knew we had a hit on our hands when we hiked up the wholesale price just a couple of weeks before we were going to sell the product," recalls Bahr, "and retail ponied up the extra 10 dollars and the game went out [to wholesalers] with the suggested price I think, \$16.95."

Despite the relatively high wholesale price, the day-one shipment numbered 110,000 units. The experiment in a format yet to gain mainstream traction to selling over 1 million units. Rebel Assault became one of the biggest rewards in Lucas's against-revenue strategy.



WORLD WAR II FLIGHT SIM—IN SPACE

The journey toward the release of Larry Holland's seminal space-flight action sim *Star Wars: X-Wing* (1993) began many years earlier, as he completed work on *Battlehawks 1942* (1988). The license to produce *Star Wars* games at that time resided with publisher Broderbund, which had released conversions of the classic *Star Wars* arcade game for home systems such as the Commodore 64 and PC. So design discussions with general manager Steve Arnold and designers within LucasArts to apply a game design involving the mechanics of World War II fighter planes to the space-based action series of the *Star Wars* movies initially didn't get off the ground. Still, the idea was filed away for future reference.

To get a sense of the speed, movement, and tactics of Air Force pilots, Holland and his team studied footage of actual dogfights filmed from the gun camera. The more they saw, the more they realized the common ground these dogfights shared with the X-wing battles in the *Star Wars* films—which is not surprising, as Lucas had studied similar documentary footage in planning out the aerial choreography for his new starfighters.



By the time Holland shipped *Secret Weapons of the Luftwaffe* in 1991, and its expansion docks the year after, the *Star Wars* license was back with LucasArts. As obvious as it would seem to dust off the idea of applying the flight-simulation engine to *Star Wars* spaceships, this was not a time of huge excitement around the franchise. "It was a period when *Star Wars* was in the doldrums," recalls Holland, and the company questioned whether an audience for games based on the setting existed in sufficient numbers. But author Timothy Zahn's *Heir to the Empire* series of novels (including *Dark Force Rising* and *The Last Command*) performed admirably at bookstores between 1991 and 1993, which helped invigorate



Above: Box art for *Star Wars: X-Wing* (1993).

Left, top: A screenshot from *Star Wars: X-Wing* showing the cockpit view and an enemy TIE fighter.

Left: Screenshot of Rebel X-wing fighters attacking an Imperial Star Destroyer.



March 3, 1994

Vince Lee & the Rebel Assault Crew
LucasArts Entertainment Company
P.O. Box 10307
San Rafael, CA 94912

Dear Vince and the Rebel Assault Crew:

I am extremely excited and proud of the great work you've done on *Rebel Assault* and the great sales success and acclaim that it has received. By taking "Star Wars" into the CD-ROM platform, you've extended my original story ideas into a new and different form of entertainment. You seem to have set the standard for what this new medium can accomplish for interactive entertainment. It's great that we can also set the standard for what sales can be, as well.

It's a job well done. Congratulations.

Sincerely,

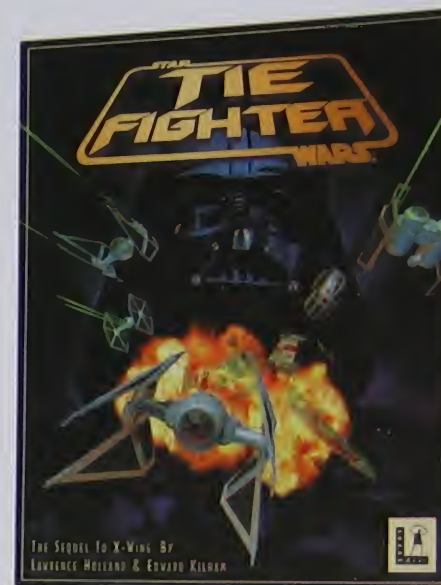
cc: Randy Komisar
Jack Sorensen

brand confidence. In late 1991, Holland added a third programmer to the core team and set out to apply the flight-simulator lessons to the *Star Wars* space setting in the game that would become *X-Wing*.

At first the team used the 2-D-sprite style of his previous flight sims, which required about six months of work hand-drawing X-wings and other ships from numerous angles. Eventually, they decided the ships should be polygonal. "The artists were like 'What? How could you possibly do that?'" says art lead Jon Knoles.

Fighting the technology, the game was looking "primitive" for a long time during development. But finally, as the ships' blaster bolts began to flash against the backdrop of black space, it was clear that the game was heading in the right direction. A big question remained about how the audience would react, however. The team was unsure whether the setting would strike a chord with gamers—would they follow Holland's past, historically inspired games into the starry void?

For these reasons, Holland didn't expect the reaction that would propel *X-Wing* to the rarified air of the pantheon of PC gaming. When Gordon Radley, president of Lucasfilm, took the whole *X-Wing* team—including the testers—to a grandiose celebratory dinner at the swanky Lark Creek Inn in Larkspur, California (about 20 minutes from the office), "It was the coolest moment," recalls Holland. "At the movie-industry side of the business saluted the contribution of the gaming team."



FIGHTING FOR THE BAD GUYS

The flight-sim category would take another step up as Holland's team—which became Totally Games during the production of *X-Wing*—tackled the flipside of the story, putting the player in the cockpit of an Imperial TIE fighter. Holland's academic background in anthropology helped him define the value of seeing the other side of a conflict, something he had already done with precision in the historical *Secret Weapons of the Luftwaffe*. (Holland had challenged the designer to find a story that would make gamers want to play as a German Air Force pilot in World War II.)

Another lesson learned from that project was try not to cram in every conceivable idea. The original design plan for *X-Wing* had you flying for either the Empire or the Rebellion, but, realizing the scope of that undertaking, Holland had scaled back the ambition level for this first game. The team took the lessons they learned on *X-Wing* and built an even better game with *TIE Fighter* (1994). Holland accepted that

(continued on page 84)

Left: Box art for *Star Wars TIE Fighter* (1994), the sequel to *X-Wing*.

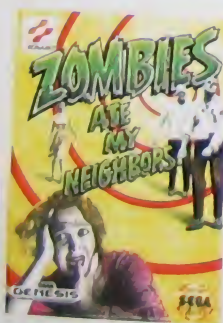


Above: Two expansion disks quickly followed the release of *X-Wing*, as the business model of adding new planes and missions to an original game had proved successful with Holland's earlier sim titles.

Opposite: Congratulatory letter to the Rebel Assault team from George Lucas, dated March 3, 1994.



Zombies Ate My Neighbors



Above: Box cover for *Zombies Ate My Neighbors* (1993).

Top and right: On the SNES version, players could access the bonus level (seen here in screenshots) by entering the code "BCDF" on the Genesis version they used "QSDZ".

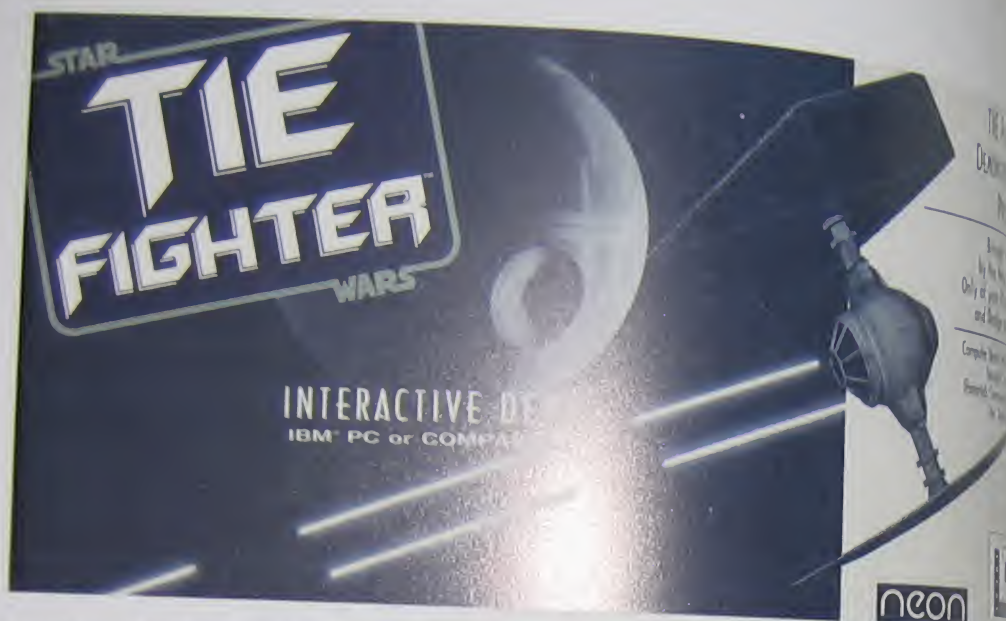


LucasArts continued to test fresh premises and game mechanics. Designer Max Eberhart and Brian Sharpe concocted a game concept called *My Neighbors* (1993), which Kinross would port to Super Nintendo and Sega Genesis. Coming out of Lucasfilm Games, *Zombies* brought an edge and plenty of humor that referenced 1950s horror. It also included a self-referential secret level called "Tentacles" (named for that game), and the end credits presented in the final level of the game, "Monsters Among Us." The credits level is a reproduction of the Lucas offices with numerous employees portrayed as zombies who introduce themselves to the player. One character can be found at the front desk welcoming players to the line, "Welcome to LucasArts games and we got to work" (see facing page). The adventures of the protagonists of the *Zombies* adventure, the sequel, *Ghouls 'n' Ghosts* (1994). This follow-up was well received as its predecessor however, and the series went to an end.



Above: Box cover for *Ghouls 'n' Ghosts* (1994), the sequel to *Zombies Ate My Neighbors*.

Left: Using password code "QSDZ" on the SNES version opens the *Monsters Among Us* level, which includes George Lucas (top left), artist Steve Purcell (middle left), lead animator Collette Richard (middle right), "Boss" Kelly Flock (bottom left), and testers Mark Cartwright, Leyton Chew, Mark Nadeau, Brett Tosti, and Mike Levine (bottom right). The anticipated "robot game" is *Mike's Warriors* (1995).



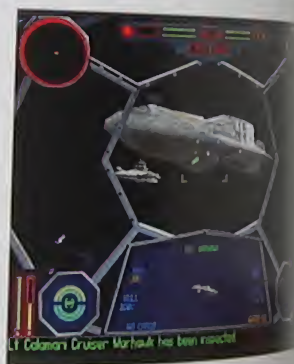
Above: Carmine Pymouth and Draga recognized the appeal of TIE Fighter, using it as bait to get customers to come and drive their cars.

Right: Screenshot of cockpit view from Star Wars: TIE Fighter.

the gameplay in X-Wing was a challenge for those people who had been entirely into the Star Wars setting but who had found the on-screen gameplay challenging, as it required you to manage numerous on-board ship functions, stay alive, and, of course, complete the mission. "We wanted a more balanced, better game with TIE Fighter," explains Holland. "Take with the first kid—you make a bunch of mistakes, but then you make fewer as you go on."

Historically, gamers have in fact displayed a penchant for playing as the "bad guys," and the goal of becoming Darth Vader's wingman clearly appealed to the audience. So despite the fact that players were—or maybe because they were—flying for the Empire, TIE Fighter became a huge critical and commercial success. In shaping the player's dark protagonist, the game approached the Empire not as fundamentally evil in nature, but militaristic, keeping order throughout the galaxy using a foundation of power.

At this time there was little oversight from Licensing that might limit LucasArts' mission styles or objectives. Any issues in sticking to canon mainly revolved around individual ship designs. From the basic guidelines, so long as Darth Vader didn't appear in a pink tutu, most anything else was fair game.



That attitude went all the way to the top. Holland recalls being told of a Lucasfilm board meeting that included a review of the TIE Fighter box art. On the back of the box referenced the Imperial Navy, paused, and then added that it needed to be approved. "There was a relaxed belief that we wouldn't pore over every detail," says Holland. "It was liberating to work on a property that was so liberating."

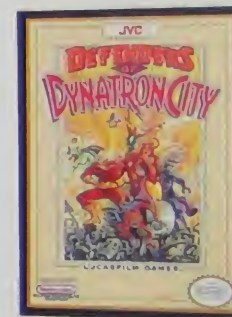
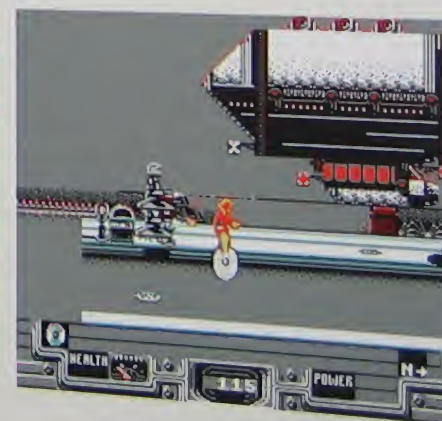
For internal development teams at LucasArts, the gloves were now off as opportunities arose to apply the Star Wars setting to the most popular game genres.



Defenders of Dynatron City

The shifting, growing scope of the games industry, with new gamers discovering the hobby thanks to the influx of powerful console systems, all combined to warrant efforts to target demographics and not just platforms even before the company became LucasArts. To that end, art director Gary Winnick created a range of superhero characters and a storyline as a new intellectual property, Defenders of Dynatron City (1992). The game was aimed at 18- to 24-year-olds, whereas many of Lucasfilm Games' previous games were successful with 30-somethings, who could afford the home computer required to play

them. Efforts to broaden the scope of Maniac Mansion to TV had met with mediocre results, but the same attempt was made with Defenders of Dynatron City, and a Fox Saturday-morning special cartoon was produced. Though it scored decent ratings, the show wasn't picked up for serialization. Without the TV show backing, a planned range of toys and a Marvel comic-book series failed to materialize. Producer Kalani Streicher described the project as "one of the risks we took. Unfortunately, it didn't take off as much as we hoped."



Above: Box art for Defenders of Dynatron City (1992).

Top: Artist Gary Winnick conceptualized a bold design for Defenders of Dynatron City with a city threatened by Dr. Mayhem, robots, and mutants.

Bottom, left: Screenshot of Headsstrong and an enemy robot.

Bottom, right: Screenshot of Buzzsaw Girl facing a level boss.

Pages 86-87: Concept painting for Defenders of Dynatron City, by Steve Purcell, circa 1992.





CHAPTER FIVE

BURIED TREASURE

1995-1996

The creative heart of LucasArts was now beating strongly, with the *Star Wars* and *Indy* franchises available to internal teams and with innovative original properties balancing the portfolio. Not surprisingly, as videogames started to generate broader mainstream attention, the companies that produced consistently successful products became targets for acquisition.

Randy Komisar, president of LucasArts from 1993 to 1995, fielded a serious inquiry from a high-tech company looking to move into this emerging business space. "They looked at everything we had, and they said: 'Where's your technology? Your technology base isn't strong,'" he recalls. Komisar explained that the game industry was moving as fast as the technology, so much so that technology was continually

and radically evolving. "Our guys were problem solvers... they never built technology to solve a problem, and would throw it away and solve the problem again with a different set of parameters."

But for most large technology companies, that methodology was worrying. "This company [our mindset]," adds Komisar. "The desire to see technology as an asset, as something that you can build on over and over again." Although internal team experience helped illustrate the challenges faced by game developers and publishers, staying ahead of the rapidly moving technology had a roughly six-month shelf life. LucasArts' commitment to new console releases was intermittent, but these consoles presented



challenges for the future as the company explored new opportunities. Yet it was against this difficult backdrop that the internal teams still created some of the studio's most beloved games.

Adventure games continued to dominate the company's product lines and expertise, alongside the military simulations that had now dipped into the *Star Wars* universe. Similarly, the PC remained the company's platform of choice, with console development handled by external studios. Elsewhere in PC-game development, the first-person shooter was emerging as the latest exciting genre: id Software's *Wolfenstein 3D* (1992) and especially *Doom* (1993) had captured gamers' imaginations; the latter had even caused office networks around the world to crash under the weight of traffic driven by the latest industry buzzword: deathmatch.

Three engineers at LucasArts subsequently hooked up with a new design idea: to ride the *Star Wars* franchise to the forefront of the first-person-shooter genre. In its first iteration, the game that would become *Dark Forces* (1995) featured a plot following Luke Skywalker's experience straight from the *Star Wars* story. A second version of the plot followed a spy character who was working behind the scenes

Stepping into the first-person shoes of an action hero in the worlds of *Star Wars* presented a unique experience that clearly resonated with the audience.



during the events in *Star Wars*; the character's progress would run parallel to the language of the movie. Yet, neither of these plans had legs with the design team, and both were scrapped.

Jason Chin, who had joined LucasArts as a senior artist for the SNES game *Blue Sky Trooper* (1995), was about to start work on an *Indiana Jones* adventure game. While that game looked impressive, Chin recalls seeing LucasArts engine programmer Ray Gresko crafting "a 3-D TIE fighter moving in a blocky 3-D room with a lot of hallways. It was crude but amazing." The stated intention to take office-favorite *Wolfenstein* and make it for the *Star Wars* galaxy was incredibly appealing, so Chin jumped from the *Indiana Jones* project onto the *Star Wars* team. Once onboard, he floated a story idea about an Imperial soldier who, under the guidance of Mon Mothma, eventually becomes an agent for the Rebels. That character was Kyle Katarn, and though he was an accomplished and decorated soldier, he was not a Jedi. That meant no Force powers, and due to the technological limitations of the fledgling 3-D engine, the planned lightsaber ended up on the cutting-room floor (Katarn would have to wait for the sequel to realize the Jedi dream).



Above: Box art for *Star Wars: Dark Forces* (1995).

Top left: As part of the evolution of the game design, the interior for *Star Wars: Dark Forces* went through several iterations, such as the one shown here, before settling on the final version of the game.

Top right: This image from Katarn's PDA shows a *Star Wars* Destroyer map that ultimately did not make it into the final shipping version of *Dark Forces*.



First-person action games required level designers, so new skills were needed among the team members. Convincing, effective storytelling was a new concept in a genre that usually used its visceral appeal to grab headlines and attention, while total action was new to the company, as was the technology created to drive the experience. Between all these strategic, structural, and technological elements, the project was intensely challenging for everyone involved. Despite these factors, and the fact that Dark Forces lacked a multiplayer component (no deathmatch!), the game was relatively successful at retail.

Top: Concept art of characters in Star Wars: Dark Forces, by Justin Choe, circa 1994

Right: Sketch from Metal Warriors, artist unknown, circa 1994

Big Sky Trooper and Metal Warriors



LucasArts continued to pursue console development for publisher JVC, with Hal Barwood leading Big Sky Trooper (1995). Metal Warriors (1995) was published by Konami. Both games suffered from being released just as the SNES platform was eclipsed by the launch of the Sony PlayStation.



Spielberg worked closely with Lucasfilm Games on the outline (while sci-fi author Orson Scott Card wrote the dialogue), thrashing out answers to questions.

THINK BIG

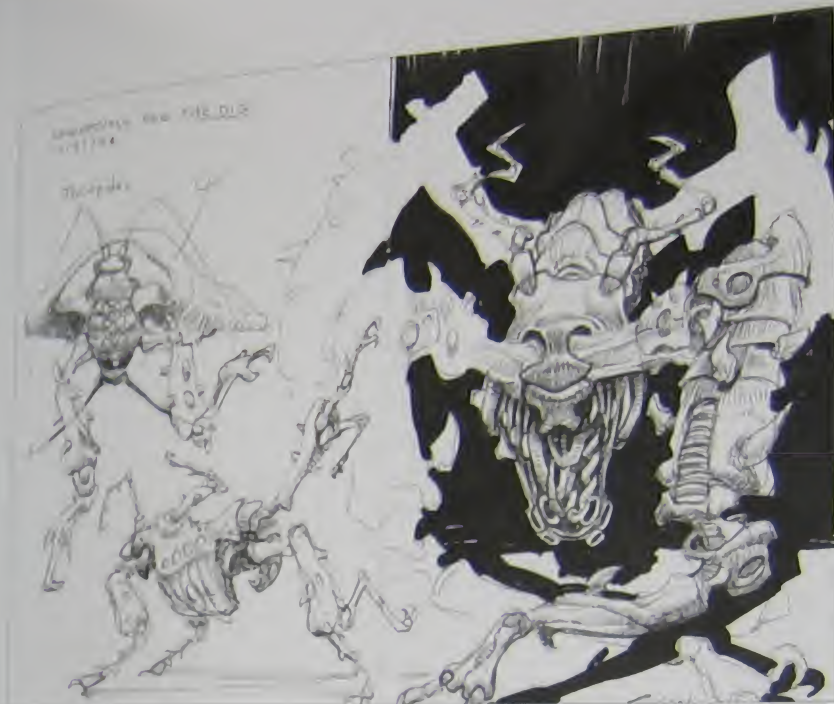
A hugely challenging but fascinating part of LucasArts' history was the development process for The Dig (1995), which began years before its release. The story involved an asteroid hurtling toward Earth and a team of astronauts sent to destroy it. The crew's discovery that the meteor is a remnant of an advanced civilization—combined with the subsequent immobilizing of their ship—presented a bold plotline.

So bold, in fact, that the initial intention for the story, originally conceived by Steven Spielberg as a movie, had to be shelved due to the unmanageable cost of filming something on that scale in the late 1980s. Building sets and producing the story would be cheaper if it was all digital—that is, if it was recast as a game. Spielberg's longtime interest

(continued on page 94)



Top: The Dig (1995) was the last game developed by LucasArts.



Opposite and left: Concept art for creatures in The Dig, by Peter Chan (opposite top: circa 1994, opposite bottom: August 1994, top: July 27, 1994, bottom left: June 20, 1995)



Top: Concept art for *The Dig* by Peter Chan, showing how different areas were integrated together

Above: Creator of *The Dig* storyline, director Steven Spielberg

in videogames and his friendly over-the-shoulder look. Spielberg dropped it on the doorstep of LucasArts.

Spielberg worked closely with LucasArts Games on the outline (while sci-fi author Orson Scott Card wrote the dialogue), thrashing out answers to questions about how they would arrive at certain key points of the story, how characters would evolve, and where moments of drama would emerge. It was a process that brought elements of film production to the videogame world, a methodology further complicated by weaving a plot that would allow Spielberg to eventually produce a movie that would fill in more details about this tale of archaeology in space.

Where most games were taking a page from film to develop, *The Dig* took about six years to develop a concept in 1989. As a result, it passed through several designers, starting with Noah Falstein and Brian Moriarty, and then to Sean Clark. By the time it approached completion on the game, the look of the creation would look somewhat stale in the ever-growing games technology. But it would take another year of work to retouch the concept art, and that wasn't an option.

With various iterations and aging technology, *The Dig* failed to live up to its billing. "[The game] suffered several setbacks from not having one creative



visionary on our end to interface consistently with DreamWorks," recalls marketing director Mary Bihl. Nevertheless, *The Dig* was an intriguing experiment in the broadest form of multimedia entertainment. A novel was also released alongside the game, and, with the potential for a movie extension, it was an ambitious project conceptualized to cross multiple media platforms. The result didn't match the potential, but it served as a valuable lesson in how games could blend movie-quality story-telling and production values into one fluid experience.

(Continued on page 98)



Above: Famed author Orson Scott Card wrote the dialogue for *The Dig*

Left: The concepts came to life in the game world as the team tried a cinematic approach to game storytelling such as this screenshot showing the appearance of an alien ghost.



Right: Oil painting from *Mortimer and the Riddles of the Medallion* (1996), by Steve Plurcel. That was the first and only children's game published by LucasArts (box art above).



Above: Ventures into the casual-gamer markets resulted in titles such as *Indiana Jones and the Temple of Doom* (1996) and *Star Wars: Yoda Stories* (1997).

Right: Box covers for *Star Wars: Anakin's Speedway* (1999), *Star Wars: Jar Jar's Journey* (1999), *Star Wars: Early Learning Activity Center* (2000), *Star Wars: Episode I The Gungan Frontier* (1999), *Star Wars: Yoda's Challenge* (1999), *Star Wars: Math-Jabba's Galactic Galaxy* (2000), *Star Wars: Super Bombad Racing* (2001), and *Star Wars: Droidworks* (1998).



Kid's Stuff

In trying to expand its markets, LucasArts released several titles aimed at casual gamers and younger audiences. The Riddles of the Medallion (1996) was the company's biggest. "Financially, *Mortimer* was the most successful videogame, and we knew this because it was a 'family game,'" says president Rance Galt. "It was the only one."

institutionally because of [our customers' use of] new projects." But education had long been George's personal passion, thus, LucasLearning was created to combine technology and learning (see our special LucasLearning titles).



Left: Concept art for *Mortimer and the Riddles of the Medallion*, by Peter Chen, circa late 1994.



Above: Box art for Full Throttle (1995), dubbed "A Heavy Metal Adventure"

Right, top: Cutscenes in Full Throttle were extremely well directed and acted

Right: The biker face-off action sequence and puzzle stumped many players on the game's original release

Bottom and opposite: Concept art for Full Throttle of the Vulture Cargo Plane (circa 1993) and Rotweiler biker (circa 1994) by Peter Chan

BRING ON THE BIKER GANGS

As the PC games industry began to shift its attention to key genres such as 3-D graphics-powered first-person shooters, involved role-playing games, and real-time strategy titles, Full Throttle (1995) arrived to remind everyone that adventure games still held an important position in the hearts and minds of core gamers. Tim Schafer wrote, designed, and was the project leader on the memorable escapades of Ben Throttle, leader of the Polecats biker gang. But the game's road to production was not a foregone conclusion when Schafer first submitted the design for approval. Despite his track record on the well-received The Maniac Mansion (1987) and Day of the Tentacle (1992), the management team's first reaction was to dismiss it. "I don't believe we paid you to make this," they told him. Schafer responded with a "punkier, rawer" concept, which was approved. "I didn't know they were very receptive to my ideas," he adds.

Full Throttle was also far from easy. Full Throttle was a high-tech game, with technology from the mid-1990s, including a custom engine, as well



Right: Early character sketch of Ben Throttle, by Peter Chan, October 1993

Opposite, top: Screenshot of Ben Throttle in the Kickstart bar from Full Throttle.

Opposite, bottom: Even the type treatment for the game's logo (and the rest of the game's text) through numerous iterations to get it just right.



"They hated it."

—Tim Schafer, designer, on management's reaction to his original design for Full Throttle

as the INSANE engine built by programmer Vince Lee to power Rebel Assault (see page 104). Because INSANE was originally crafted to power gameplay using full-motion video, the switch to the cartoon format of Full Throttle's art design created problems within the engine. Fortunately, these technical hurdles were part of a challenge that the team embraced as it concocted the tightly scripted, expertly paced story of Ben. The lead character also required just the right performance, which was found in Roy Conrad. "I think Roy's voice was a huge part of making Ben Throttle a charming character," Schafer says.

The hard-nosed biker was certainly a change of pace and style from Monkey Island's Guybrush Threepwood and Day of the Tentacle's Bernard, both of whom Schafer describes as "lovable losers." Inspired by Toshiro Mifune's samurai in Akira Kurosawa's incredibly taut, stylized movie *Yojimbo* (1961), Schafer wanted a protagonist who was strong and — Conrad's voice was "deep and tough, but also gentle and funny," recalls Schafer.

Few adjustments.

• Thicken up the letters (more blockier over-all).

• widen the U a bit

• The T and the H needs some breathing space between them

• widen the H a bit.

FULL THROTTLE

• ROTILE needs

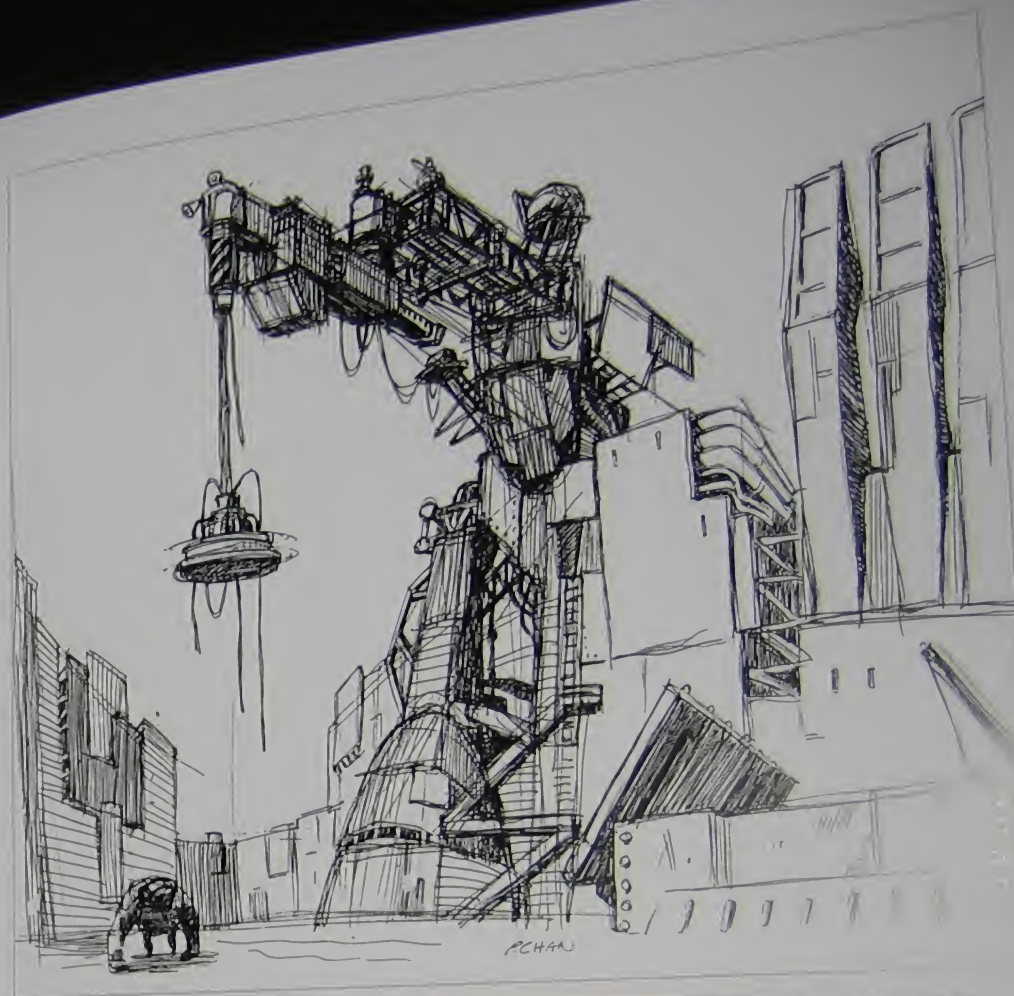
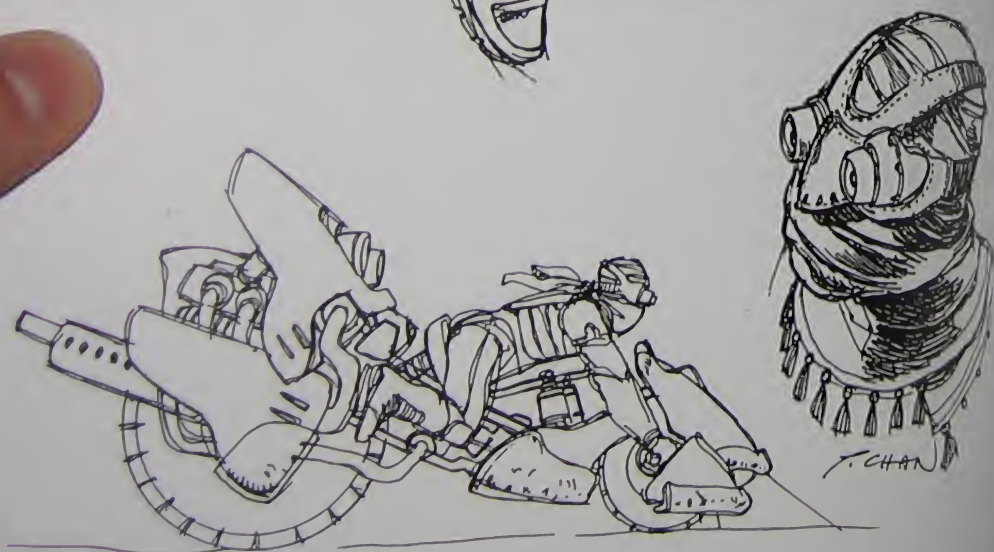
equal spacing. (A bit tighter.)

Just push everything → that way

Thanks, Peter



CAVEFISH



Ultimately, its strong characterization, truly funny story, and rapid pace helped propel Full Throttle into the pantheon of great PC gaming experiences. While some critics derided its relatively short length (at a time when many games offered more than forty hours of gameplay, Full Throttle could be completed handily within about six hours), this brevity meant that many players actually saw the ending. Schafer was told by many gamers that, "It's the only adventure game I've ever finished."

Today Full Throttle remains one of the most fondly revered titles among the LucasArts adventure stable. It even featured a voice-acting performance from one Mark Hamill (Luke Skywalker).



Above: Concept art for Full Throttle (1995) by Peter Chan. (Opposite page) Left: Concept art for Full Throttle (1995) by Peter Chan. (Opposite page) Right: Concept art for Full Throttle (1995) by Peter Chan.



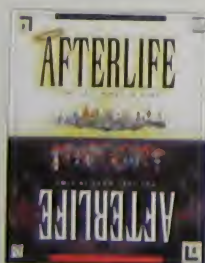
Above: Box art for *Star Wars: Rebel Assault II* (1995).

Right: Screenshot of actors Jamison Jones and Julie Eccles (right) disguising themselves as stormtroopers in a *Rebel Assault II* cutscene.

BIG HIT SEQUELS

When a game proves to be a big commercial success, you can be sure that a sequel will follow quickly. So it was no surprise that a sequel to *Rebel Assault*—*Star Wars: Rebel Assault II: The Hidden Empire* (1995)—was released just two years after the original changed the face of the industry (by helping to sell the potential of CD-ROM as a gaming delivery mechanism with increased data-storage capacity). Vince Lee was able to improve once again on the technology that powered the sprites on top of the full-motion video (the LucasArts' tradition of creatively naming technology had continued with *Rebel Assault* with the Interactive Streaming Animation Engine, which—if you squint a bit—stands for INSANE acronym). Lee's engine enhanced and compressed the video images to that point that 1080i resolutions could be achieved on the late-1990s PC. The core gameplay retained the “on rails” format of the original—meaning gamers just had to react to waves of enemy ships soaring in.

Afterlife



Strategy gaming remained a significant genre on the PC platform in the mid 1990s, but LucasArts had no games representing its brand in that space. *Afterlife* was a solution to that absence, and also a truly unique concept—one that involved building Heaven and Hell on an alien planet (thus avoiding potential controversy).



Right: Concept art for *Afterlife* (1996), by Brian Rich, circa October 1994.



not worry about controlling their actual ship. Lee hoped that the improved range of the camera would provide enough impetus for the series to be strong once more.

Hal Barwood was brought in to use his experience of shooting many scenes quickly and directed the *Star Wars* live-action footage on-screen stage. Though Lucas had seen the need to contribute shooting suggestions for the live-action *Assault*, the successful treatment of the camera combined with the success of the game, led to a more hands-off approach to the sequel's video work.



Above: Tracking device prop from *Rebel Assault II* cutscenes, made from an old calculator case.

Left, top: Cast and crew from the pseudoseries filmed for *Rebel Assault II*, including project leader Vince Lee (standing in middle, with striped shirt) and director of live video Hal Barwood (crouched in front row right, in red shirt).

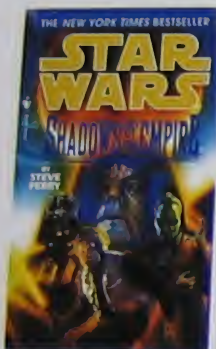
Left, bottom: Actors Jamison Jones (left) and Julie Eccles (right) in stormtrooper costumes, on the set of *Rebel Assault II*, circa 1994.



The whole package of improved video-compression technology and player interaction assured the success of *Rebel Assault II*. It also laid the technological foundation to explore new game ideas incorporating

video, even as the “multimedia” buzzword had begun to wane as a key selling point.

Among these ideas was a Hal Barwood design called *Rapid Transit*. Real-time 3-D graphics hadn't yet proven themselves a practical technology to pursue as they required specific video-card hardware. So with some life remaining in the multimedia approach, coupled with LucasArts' own expertise with video-based game design, Barwood outlined a point-and-click adventure that would use video. The story involved a BART Bay Area Rapid Transit train that enters the subway tube (a local reference familiar to everyone at the San Francisco Bay Area-based company) and never comes out. Unable to garner enough internal help to flesh out the design, Barwood abandoned the project, forever shrouding what happened inside that tunnel.



Above: The *Shadows of the Empire* story was also told through a novel of the same name by Steve Perry.

Right: Dark Horse Comics released a comic book based on the Nintendo 64 game *Star Wars: Shadows of the Empire*.

Right: Nintendo 64 box cover for *Star Wars: Shadows of the Empire* (1996).

LOFTY AMBITIONS

Bold ambitions sat at the heart of LucasArts' first foray onto a new console platform with the development of *Shadows of the Empire* for the Nintendo 64 (N64). "It was a multimedia project where [Lucas Licensing] would get comic artists, a novelist, and even do a soundtrack," recalls artist Jon Knoles.

As it turned out, just producing the game was enough of a challenge. The concept was to recreate the fabulous Battle of Hoth from *The Empire Strikes Back* (1980), but the design couldn't be tested on the host platform for about 18 months because Nintendo was still completing hardware production. For nearly a year, speculation became a reality when the system

Shadows of the Empire



Game designer Tim Schafer, who wasn't officially employed on *Shadows of the Empire* (1996), still receives a mention in the game credits. His contribution is listed as "Never Actively Tried to Sabotage the Project!"

"It came from the fact that we were a small company back then, and the projects really intermingled," Schafer says. "It basically means, 'Tim came around our office a lot and bugged us when he didn't feel like working on his own game.'"



delivered on its promised function, *Shadows of the Empire* became one of the first games released for the N64 (it was a launch title when the N64 arrived in March 1997)—and was a huge hit.

This early adoption of a console game was in part LucasArts' response to a feeling that it had missed out on some earlier opportunities by not embracing popular machines sooner, such as the original PlayStation. And past success on the PC and SNES with *Star Wars*-themed games had helped establish a positive working relationship with Nintendo. (The LucasArts name had little awareness among PlayStation owners, however, despite the firm's brand association.)

"We had no great programmatic goals for the development," so we decided to do pieces of *Star Wars* and *Rebel Assault II*, along with a ball game [Ballblazer Champions, 1997] based on an original. "These products allowed LucasArts to enter a new market, and to plant initial seeds in the console game market with an audience that was already familiar with its heritage as the PC gaming company."

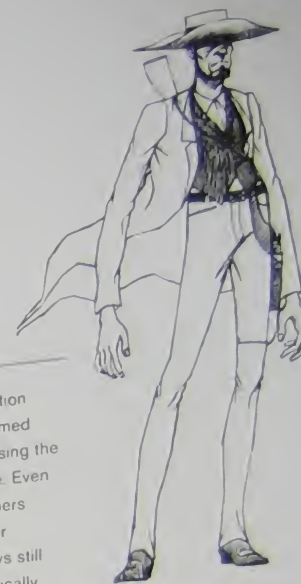


Outlaws



The original production of this Western-themed shooter was built using the Dark Forces engine. Even though the developers upgraded that older technology, *Outlaws* still suffered technologically when compared to peers in the shooter genre. With the PC audience feeling hungry for 3-D graphics,

many of them overlooked what was actually a keenly told story in a setting that has been woefully underserved across the videogame industry. *Outlaws'* multiplayer element was simple, but its unique environment, coupled with the varying abilities of its six playable characters, produced a deeply committed fanbase.



Above: Character sketch for *Outlaws* (1997), artist unknown.
Far left: Storyboard concepts for *Outlaws*, artist unknown.

Below: Despite some serious themes in the Western setting, *Outlaws* maintained a few in-jokes, including Max, of Sam & Max fame, hidden away in one building.





Top: Box art for *Star Wars: Jedi Knight - Dark Forces II* (1997)

Above: October 1996 issue of *GamePro*, with a *Star Wars* game round-up

Right: Concept sketches of boss enemies in *Star Wars: Jedi Knight - Dark Forces II* by Peter Chan, January 1996

CREATING A JEDI KNIGHT

In videogame development it's oft noted that there are "lies, lies, and release dates." The moving targets of new PC graphics-technology standards, coupled with the intrinsic difficulty of evolving a game-design process into a true 3-D era, resulted in the hugely anticipated *Star Wars: Jedi Knight - Dark Forces II* being delayed until 1997. The PC-games enthusiast press had latched onto every morsel of information about what this Dark Forces sequel promised to deliver, generating incredible hype among the community through numerous magazine cover stories. But the wait was worth it, with the result being the launch of one of the most critically acclaimed games to date.

At this point in time, the industry was going through another game development cycle, laying the foundation for building a more sophisticated game to catch on. The Quake engine, for example, was significantly licensed, only to be used in the Jedi Knight's initial development. The result was the ambition level for this game, which was beyond what a third-party publisher would have been able to supply. No other game had given the Force, and Force powers, Jedi Knight gave PC gamers all those new toys to play with, and it supported the single-player experience with a supremely engaging online multiplayer element.

Pushing the storyline set up in the original *Dark Forces*, *Jedi Knight* used about an hour of live-action-video cutscenes to show your interactions with other characters in plot-advancing moments. *Jedi Knight* also helped revolutionize narrative techniques that wove the story into the all-out action of a first-person shooter. How? By introducing moral decisions that actively impacted the player's abilities in the game.



The incredible twist to this story was in how the player could manipulate the game world down a dark or light path.



world. The twist was that the player could choose to play as a Jedi or a Sith.

At the game's end, the player could choose to play as a Jedi, using the powers that go with that choice. The incredible twist to this story was in how the player could manipulate the game world down a dark or light path. Killing civilians would direct the camera down the dark path. But the player could choose to kill new Force powers from either side of the moral battle, such as Force Healing, Force Lightning, and Force Dark Side. While the game allowed for significant flexibility in the powers chosen throughout most of the compelling course, a key plot point in the story made you pick a path,

and that decision directed you toward one of two distinct endings. The technical complexity of modern games made this form of multiple-path or multiple-ending design mechanism (which LucasArts had helped pioneer) more difficult to execute, and thus increasingly uncommon.

In addition, the elevation of Kyle Katarn to Jedi status meant that the hero would now be able to wield a lightsaber. *Jedi Knight*'s developers introduced an effective gameplay mechanic that would allow the player to view the character from the third person, rather than the familiar first-person perspective used when moving and shooting with traditional weapons. This vantage point enabled players to see



Top: Movie-like cutscenes were created to add cinematic styling to the *Jedi Knight* story.

Above: After the success of the original *Dark Forces*, the first announcement and screenshots of sequel *Jedi Knight* graced the cover of *PC Gamer*.

(Continued on page 113)



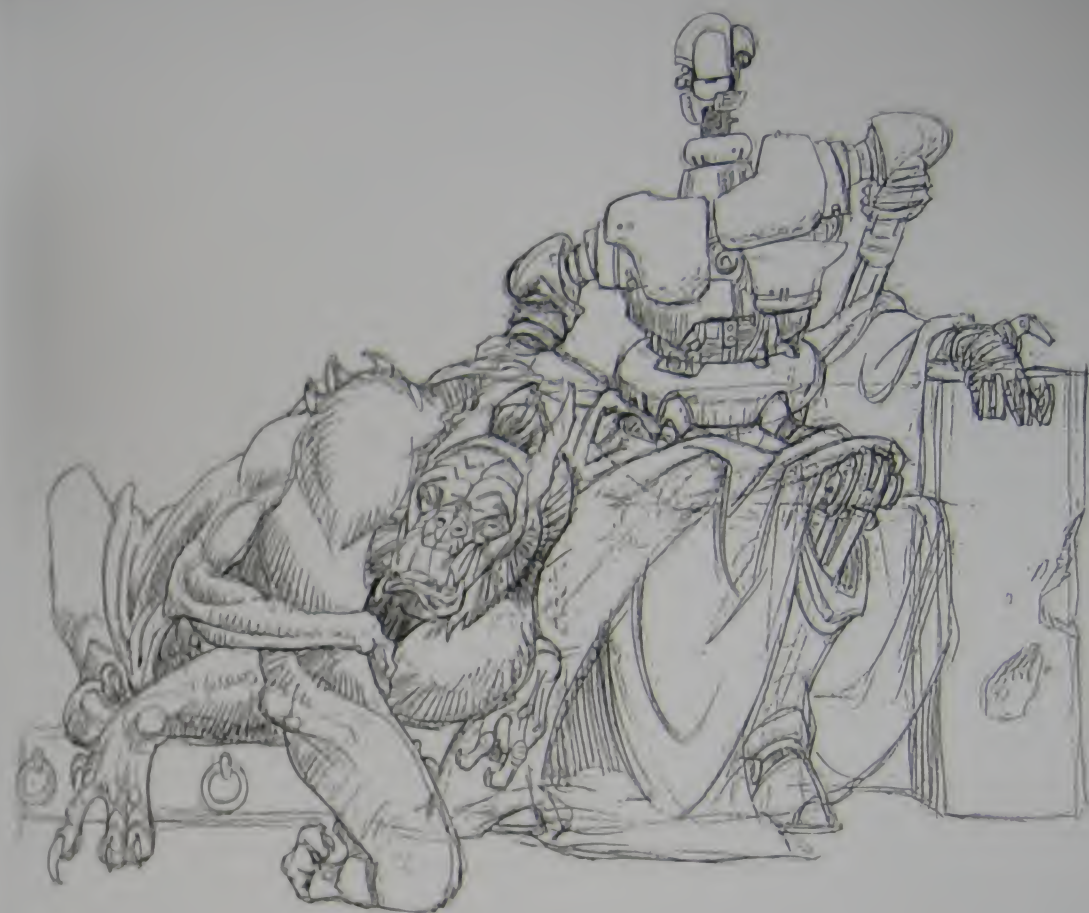
This page, and opposite: Concept art for Justice Unlimited, artist unknown, circa 1997



Justice Unlimited

From 1997 to 1998, LucasArts worked on a game concept meant to challenge Blizzard's popular Diablo action-RPG game. The entire concept was essentially "Diablo, except with superheroes," recalls LucasArts designer John Stafford. Lots of concept art and story was generated for the game, but no work was completed on a game engine, and the idea was shelved.





the jump, throw, and parry of the lightsaber. Adding some flow and using abilities such as Force Push to move objects around the environment gave the power of our Jedi in the hands of gamers. Empires' action games were built around handling as being as heroic power of being a one-man army, and Jedi Knight delivered the ultimate example of this. It was simply irresistible. After leaving LucasArts, I continued with the career of the film series, this Jedi could use the Emperor-like Force powers and even become invincible. It's power, well, well in the game, and it made the

experience more fun, then it was able to pass master and give gamers the experience they truly wanted.

Through a partnership with Microsoft to use its Internet Gaming Zone software so gamers could meet and set up online matches, Jedi Knight also made the leap online, with gamers flinging each other across maps with Force powers, slashing with lightsabers, and flexing every Jedi power at their disposal. The combination of engaging, expertly paced single-player action, and a new online multiplayer mode helped propel Jedi Knight to the vaunted status as the most critically acclaimed game to be produced thus far by LucasArts.

(continued on page 116)

Above: Concept art for Jedi Knight, by Peter Chan, circa 1995.

Opposite: Concept art of the main villain in Jedi Knight, by Chan.



Above: Box art for The Curse of Monkey Island (1997)

Top, right, and opposite: A series of 3 x 5-inch index cards storyboarded the entire plot and action sequences for The Curse of Monkey Island (artist unknown).

The Curse of Monkey Island

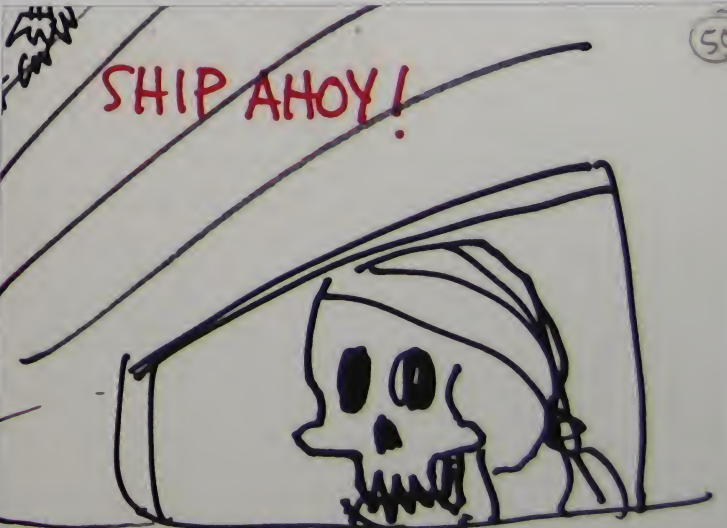
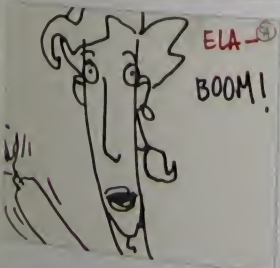
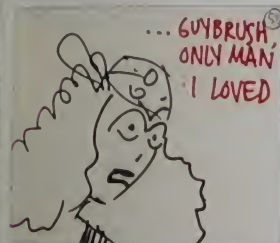
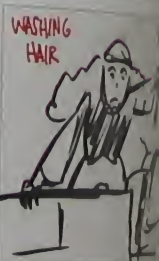
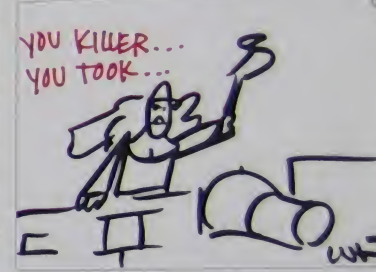
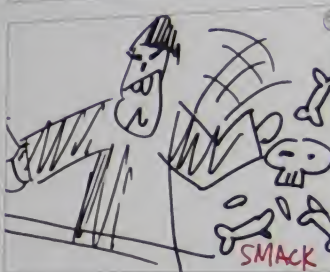
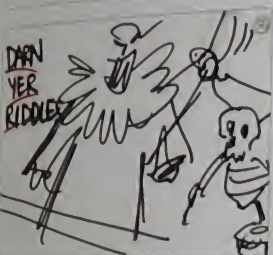
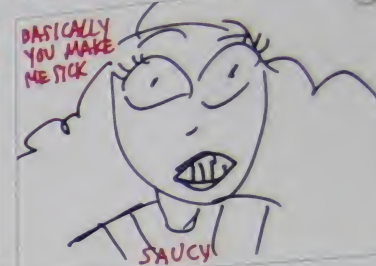
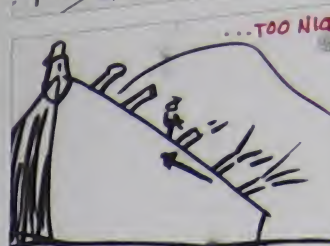
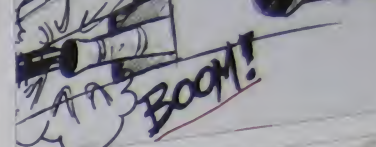
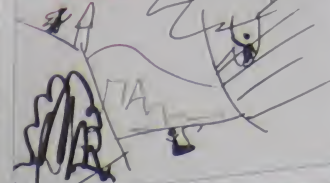
By the mid-1990s, adventure games were on the face of PC gaming. The genre was still a niche, but it was in front of the core audience's eyes. The Curse of Monkey Island was struggling. The enduring success of the first two games had led to a third appearance of the characters, but it was a concern for many fans. Storyboard artist [name] was not from the company, so design duties were given to [name], who had been working with Tim Schafer on the first game. But there was no need for worry, as The Curse of Monkey Island (1997) delivered a classic adventure experience that impressed both fans and Gilbert himself, who recalls: "The third Monkey Island was great. I thought they did an excellent job of capturing the humor and feel of the game."

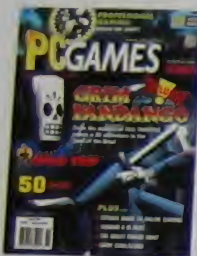
Curse also represented the last outing for the SCUMM engine, which had delivered so many classic games, signing off the venerable scripting tool's legacy with a suitably high-quality experience.

MOLD ON
CHEESE
UNDEAD
BRI



SADY SEA
CORPSE





Above: Box art for Grim Fandango (1998)

Top: June 1998 issue of PC Games, with a Grim Fandango cover story

Far right: Screenshot of Meche taking off her visor in front of Manny in Grim Fandango

Right, top: Screenshot of Manny and the clown making unusual balloon animals

Right, bottom: Screenshot of Manny and Sloth with their souped-up car, ready to "look like legends ... on pogo sticks!"

With the proliferation of 3-D graphics cards for PC gaming, Tim Schafer's latest opus, Grim Fandango, took the adventure genre into the third dimension.

MEXICAN DAY OF THE DEAD?

Whereas Tim Schafer had to rework the initial design for Full Throttle so it would be greenlit, "Grim Fandango was a breeze," the game's designer says. That may come as something of a surprise for a concept inspired by the Mexican holiday Día de los Muertos (Day of the Dead)—hardly mainstream in the U.S.—but such was the reward for having delivered a critical darling with his previous tilt.

However, the days of 2-D adventure-game development were over. Grim Fandango (1998) required a true 3-D engine, and so was born. While using some elements of the SCUMM



scripting system, this new engine enabled both character Manny Calavera, travel agent in the Department of Death, to move through out scenes in full 3-D. The challenge of comparing new technology for an original (and highly creative) setting established Grim Fandango as a significant risk for LucasArts. "Somehow, Tim pulled it off," says public relations manager Tom Sarris, who had to communicate this unusual concept to the industry press. Dealing with such a specific cultural motif brought its own potential problems, as did some issues endemic to the game's film noir story. As to Sarris, concerns arose about showing trademark characters smoking. "Our answer was: 'Well, what if the characters are already dead!'" he recalls.

Grim Fandango's quirky setting and comic style, along with Schafer's reputation within the press, generated generally positive reviews. Unfortunately, that goodwill didn't translate effectively in retail, where the game failed to produce the sales its budget and its positive reputation warranted.

Internally, Grim Fandango developed in fits and starts in early development at the same time. Another LucasArts game design had made it into the development roster, but it, too, was eventually cancelled. This project was set in the Star Wars universe and

Concerns arose about showing certain characters smoking. "Our answer was: 'Well, why? The characters are already dead!'"

—Tom Sarris, public relations manager

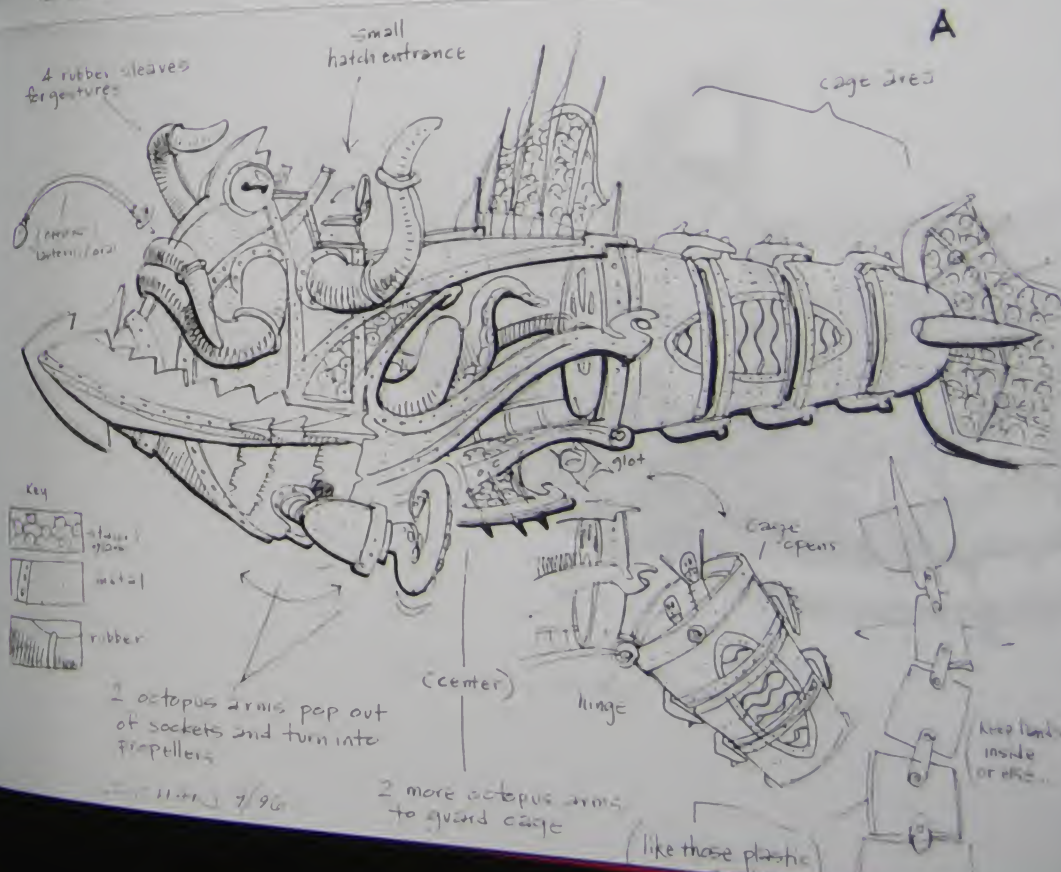
was called The New Empire. It takes place after the end of the original trilogy when the Emperor had been overthrown. Rumors around the galaxy that a new Emperor is to be named cannot be confirmed, so C-3PO is sent as a spy to find out what is happening. That's right, C-3PO. The premise was that in a disorganized Empire, the innocent-looking protocol droid would be the perfect spy to slip around such locations.

Blue-screen video technology would have brought the world to life with real actors creating the key roles, and the story would continue the Star Wars lore beyond the silver screen. Unfortunately, Empire's cancellation came when, as Barwood recalls, "Tim [Schafer] was busy going over budget and over schedule on Grim Fandango. [President Jack Sorenson] saw another one coming and cancelled it."

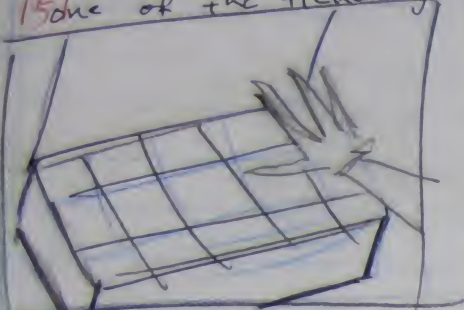
Pages 118-119: Storyboards for Grim Fandango, by Peter Chan

Pages 120-121: The full game character base poses for a memorable "photograph" with Grim Fandango project leader Tim Schafer (bottom left) keeping order

Below: Early concept art of the octopus-powered submarine for Grim Fandango, by Chan, September 1996



Manny opens the ticket suitcase on the ground. 150 one of the tickets jumps out, crawls up Meche's skirt, down her



151

Meche rides up the escalator



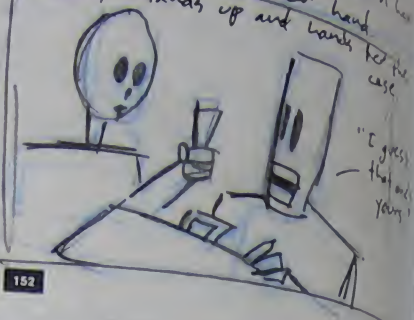
152

Raven flies out. Scary!



153

sleeve and into her hand. Manny stands up and looks for the case. "I guess that's young!"



154

She walks to the ticket booth.



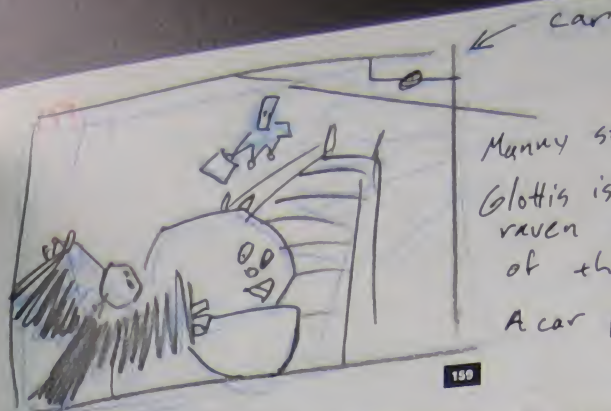
155

Meche screams, backs up, +



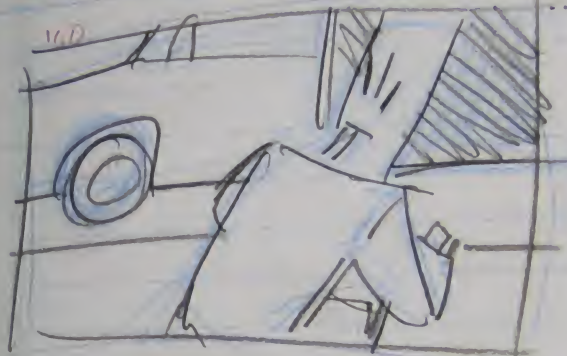
156

tosses the suitcase down the escalator



157

Manny starts to get up. Glottis is fighting the raven at the top of the escalator. A car pulls up...



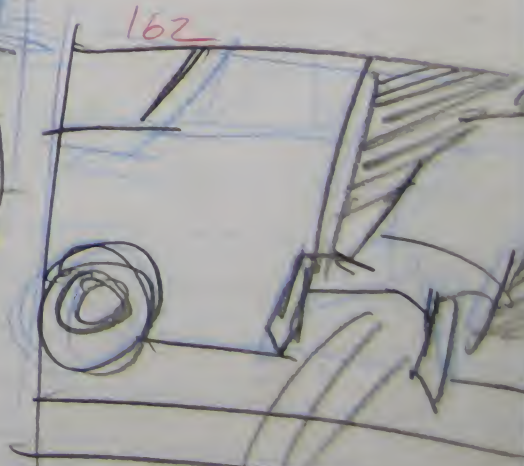
158

...and the back door opens in front of Manny.



159

Sort of Manny's P.O.V. looking into the car. Olivia is driving and she yells back to him. "Get in."



160

Manny dives into the backseat w/ the suitcase.



Grim Fandango
Cast
July 26, 1998



CHAPTER SIX

THE EMPIRE EXPANDS

1996-2000

The presence of LucasArts on the PC platform was storied, award-winning—and a foundation for the critical and commercial success of many great games. But brand awareness among console gamers remained somewhat less prominent, which resulted in some new game ideas conceived to appeal to the particular interests of that audience.

One such effort was the release of *Star Wars: Masters of Teräs Käsi* (1997) on the PlayStation—a fighting game that pitted the big stars of the *Star Wars* universe against each other. Despite a convoluted story that tried to explain why, say, Luke Skywalker was duking it out with Boba Fett in a ring, the setup just didn't make sense for gamers. In the coming years, this release did serve as a reminder that

simply attaching the *Star Wars* name to a game wasn't enough; if the game wasn't right, even *Star Wars* didn't matter. Expected by the broader audience to make the objective of establishing LucasArts as a mainstream purveyor of quality gaming on all platforms. The *Star Wars* attachment didn't carry the weight at retail, however, as *Teräs Käsi* was to be one of the most successful post-TV video games of the holiday season.

Meanwhile, LucasArts and Nintendo had forged a strong relationship. LucasArts enjoyed commercial success with its releases in that market—the installed base of N64 consoles provided a limited audience compared to the potential of the mainstream-adopted PlayStation platform. While developing games for multiple platforms, Lucas realized that the familiar PC audience just didn't



console gamers had differences in expectations. Fundamentally, PC gamers were hardcore, competent, and dedicated to their platform, and they expected their vision of good design to be realized in LucasArts releases. But the console audience had a more casual attitude, which needed to be reflected in game design for those platforms, both N64 and PlayStation.

This attitude brought about an important change in the N64 game *Star Wars: Rogue Squadron* (1998). This dual-based theme was being developed by an external studio called Factor 5, and it originally had Wedge Antilles in the pilot seat. However, president of Lucas Licensing Howard Roffman suggested that because the game was directed at a broader audience, why not make the lead character Luke Skywalker? The PC audience can appreciate references to tangential characters from the *Star Wars* galaxy,



Above: Box art for *Star Wars: Masters of Teräs Käsi* (1997).

Far left (top and bottom): Conception of Boba Fett a mission in *Star Wars: Masters of Teräs Käsi*, artist unknown.

Left (top and bottom): The character designers' version of a head screen grab from *Star Wars: Masters of Teräs Käsi* (top) and a head screen grab from *Star Wars: Masters of Teräs Käsi* (bottom). The game applied the *Star Wars* brand to a popular genre, but with limited success.



Above: Box cover for *Star Wars: Rogue Squadron* (1998).

Factor 5 has a long history of working with LucasArts, going back to the days of Lucasfilm Games. Starting in 1989, they localized games for the German market from their offices in Cologne with publisher Softgold/Rainbow Arts. In 1992, they had the opportunity to develop the SNES game *Indiana Jones' Greatest Adventure* (1994), a spiritual successor to the Super Star Wars series developed by Sculptured Software. This was followed by *Star Wars: The Imperial Machine*, new screenshots of *Star Wars: Rogue Squadron*, and information on *Star Wars: Force Commander*.

Right: October 1998 cover story of *Next Generation* with a preview of *Indiana Jones and the Temple of Doom*, new screenshots of *Star Wars: Rogue Squadron*, and information on *Star Wars: Force Commander*.

Bottom: Special issue of *Star Wars: X-Wing* Rogue Squadron series, published by Dark Horse Comics, August 1995, cover art by Markus Hamann.

but that wasn't necessarily the case for the console crowd. According to marketing director Mary Bitt, the developers were reluctant to make the change, in part due to certain restrictions it would place on character development—they found it easier to build backgrounds they liked for off-center characters than to get creative with the franchise's core legends. But Factor 5 eventually capitulated.

Rogue Squadron succeeded in taking the explosive action of the Rebel Assault games off those restrictive rails and into freer, more expansive environments. Suddenly the unfolding landscape was your playground as you flew the ship you wanted. Supported by a level of detail that allowed the showcase the graphical capabilities of the console, *Rogue Squadron* went on to be a huge success for the company. It was so popular, in fact, that available copies were directed into home video, creating the games media, who would soon be the game for review scrambling to get their hands on a copy.

Meanwhile, on the PC platform, Toys for Bob's *Game* Larry Holland was busy laying up the *X-Wing* franchise with a company that was first in strategy.



...the first *X-Wing* vs. *TIE Fighter* (1997), which focused its gameplay on a multiplayer premise of flying for the Rebel Alliance or the Empire. The game took advantage of the latest PC graphics technology, but the absence of a single-player story



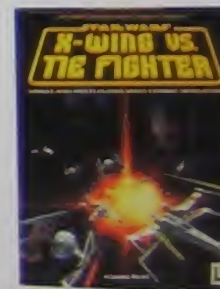
which had brought so much fan interest to the first two games in the series—was a real dilemma among the hardcore audience. In development, it faced a huge technical challenge in looking into multiplayer gaming at a time when network technology was still in its infancy.

"We were nuts to do what we were doing," says Holland. Though the group recognized the potential of bringing eight-player *quadrant* combat to the PC, the three-person program team often worked until four or five in the morning, trying to figure out workarounds for the latency issues and packet drops a problem with the Internet that needed to flow smoothly between computers connected over the Internet. Holland could not

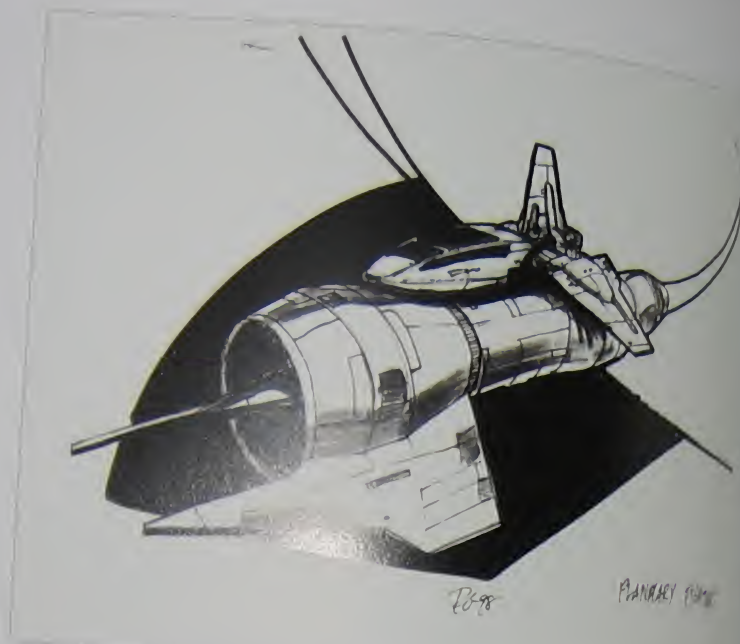


in the early hours confident that they had solved the latency problem, only to return later in the morning to discover that it was still broken. What he discovered was the same pattern of Internet traffic: The dark hours in the dead of night saw fewer users online, allowing the data packets to transfer more quickly and easily, but when thousands were logged on during business hours, the increased traffic clogged the pipelines of smooth data transfer. For gameplan purposes, that meant the ships warped and disappeared, making it almost impossible to get a head-on encounter at a point when precision was a key requirement for the game.

Core features of *X-Wing* vs. *TIE Fighter*'s game design increased the challenges faced in addressing data-transfer issues. Other online multiplayer games of the day contained the player within hallways and other enclosed spaces; consequently, smooth movement mattered only when opposing players could see each other on the screen. If they were in different parts of the map, then packet drops wouldn't be noticed—but that wasn't the case in the wide-open expanses of space, where every latency lag would be visible to each player. "To have eight people play a high-action game where the smallest error was amplified... was devilishly difficult," Holland recalls. "It was the worst case possible."

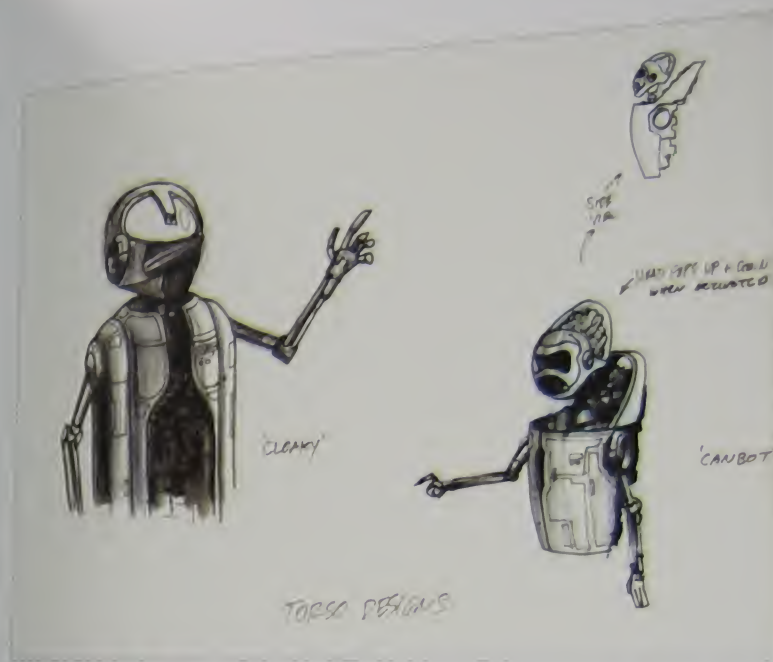
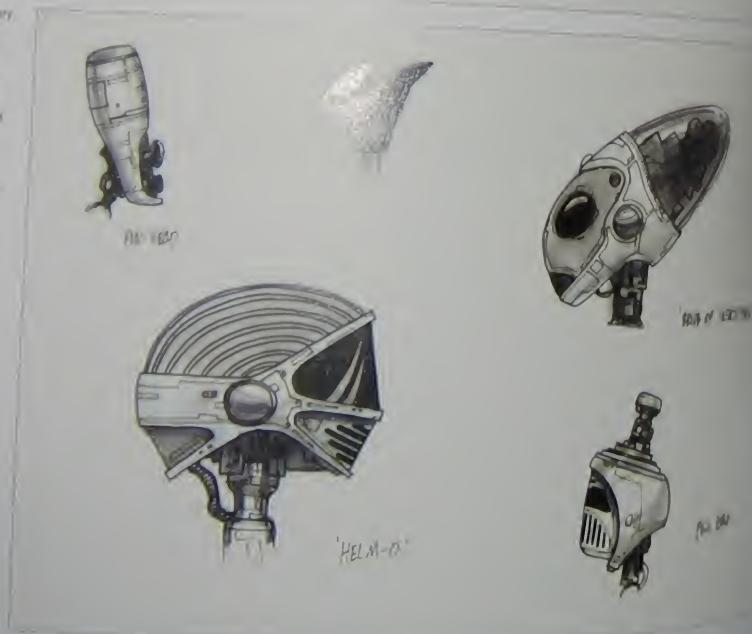


Above: Box art for *Star Wars: X-Wing vs. TIE Fighter* (1997). Top: Larry Holland's ambitious collection of the *X-Wing* and *TIE Fighter* games, paired PC multiplayer technology to meet tonight. Shown here as a screenshot from the *TIE Fighter* combat.



Top: Concept art for the primary fighter proposed for *Star Wars: X-Wing Alliance* (1999) by an unknown artist at developer Totally Games. The design was rejected by LucasArts because the big engine was coincidentally similar to new designs debuting in *Episode I*.

Bottom and opposite, top: Concept art of droids, by unknown artist at Totally Games, circa May 1998.



For gamers able to connect to each other over the close proximity of a Local Area Network (LAN), where Internet latency issues were virtually negated—the speedup battles were intense, and satisfying. But losing an enemy ship, then watching it disappear out of view due to the Internet latency can hang up with connection so game, proved frustrating for the majority of gamers.

The team had better solutions to the latency problems by the time *Star Wars: X-Wing Alliance* (1999)

went into development. Amazingly, the flight-simulator technology on which *Battlehawks 1942* was built in 1988 had remained at the heart of Totally Games' engine all the way through *X-Wing Alliance* (tracking up seven games in total). In *Alliance*, it helped power a story inspired by the film *The Godfather* (1972), where protecting a family business presented a fresh take on the military focus of fighting in the *Star Wars* galaxy. Multiplayer mission-based objectives also presented a unique experience for online gamers. The death-match free-for-all would allow X-wing, TIE fighters, and policy craft to battle each other for supremacy. But the more intriguing gameplay mode involved complex scenarios of attacking, defending, and protecting a starship. "Trying to create the whole battle royale [tricky]—it was hard to get it to work right," notes Holland. Fortunately, their efforts were successful, as countless online battles provided the hardcore fanbase with near-endless replayability for their Rebel vs. Empire showdowns—a fitting note on which to bring such a storied franchise to a close.



Above: Box art for *Star Wars: X-Wing Alliance* (1999).

Left: Screenshot of a battle with an enemy TIE fighter from *Star Wars: X-Wing Alliance*.

Continued on page 100



Above: Box art for Indiana Jones and the Temple of Doom (1985)

Right: Concept art for Indiana Jones and the Temple of Doom by Lili Ma Nguyen

Below: Concept art of the King of the Jungle level by Bal Telen and environment explorations for Indiana Jones and the Temple of Doom by Lili Ma Nguyen

Indy in 3-D

After the release of Jedi Knight in 1997, LucasArts possessed a 3-D engine that it liked to bring Indiana Jones back to gamers. By this time, Lara Croft—Tomb Raider heroine and brand-new cultural icon of the digital world—was often referred to as “Indiana Jones” because her adventures bore remarkable similarities to those of the whip-wielding archaeologist. Indiana Jones and the Temple of Doom would deliver the real deal in a way that after the end of World War II, as Cold War tensions cooled, the ancient Tower of Babel for nefarious purposes.

Designer Hal Barwood was initially tasked with making Knight technology available for the project. To put Indy into a 3-D world with a third-person perspective opened the way for original design ideas. “The engine wasn’t as easy as it could have been,” says Barwood, who points out that the team had to work around technical bugs in order to use the engine for its intended purposes. After rewriting the collision-detection code

or four times, the developers took pride in the fact that [Indiana Jones and the Temple of Doom] has some of the finest level design and the most interesting experiences that I’ve ever encountered in a game. I just think it’s wonderful, but it’s always been treated by the technical problem,” adds Barwood.



Above and left: Screenshots from Indiana Jones and the Temple of Doom illustrating Indy’s first adventure playable in a 3-D environment, including, clockwise from top, the exploration of ancient ruins; fighting back snakes; confronting Nibb’s robot guardian; and searching underwater for the fighter plane

"The goal for us was to make it feel like an eyeball-peeling racing game, where you're going so fast you're just nervous."



Above: Box art for *Star Wars: Episode I Racer* (1999)

Top: Concept art for *Star Wars: Episode I Racer*, by Peter Chan, circa January 1998

Because early tests of the film couldn't really give a complete picture, one game designer decided to make a concept with his two big dogs and a pod. Two leashes and some creative use of the pull of barely controllable leashes. He had the experience later to design the motion of a Pod—which contributed effectively to the speed-based experience.

Originally conceived as the first *Star Wars* game's name had to change when it was learned that another company owned the names with "pod" in the title. The name *Star Wars: Episode I Racer* (1999) was chosen with movie fans, who immediately responded to piloting the super-speed race.

LucasArts' back catalog, for example, was both with a new engine that would handle the speed and feel of the Podracer. That would not be easy. "Almost before we knew it, we realized that we weren't going to make a great racing game," says Knales. "We never done it before, we [couldn't] make it as deep as a lot of the more popular racers out there."

So the idea drifted away from re-creating the Podracer to a game that could take place anywhere with characters across the galaxy arriving for the chase on the biggest stages. "The goal for us was to feel like an eyeball-peeling racing game, where you're going so fast, you're just nervous," Knales says.

Because early tests of the film couldn't really give a complete picture, one game designer decided to make a concept with his two big dogs and a pod. Two leashes and some creative use of the pull of barely controllable leashes. He had the experience later to design the motion of a Pod—which contributed effectively to the speed-based experience.

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Far left: Unknown character art from Peter Chan, March 1998
Left, top and middle: Racetrack environment concepts by Chan, January 1998

Left, bottom: Screenshot of the Ando Prime racetrack from the PC version of *Star Wars: Episode I Racer*



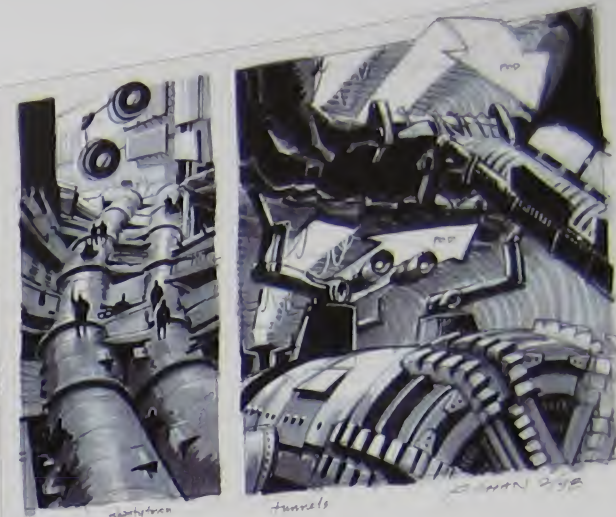


THE PHANTOM MENACE GAME

Creating a game that directly followed the movie's story proved to be an even greater challenge than *Racer*. With Episode I still in production and the script still to be finalized, scenes that the team needed to create for their project were in transition.

LucasArts president Jack Sorensen and prequel trilogy producer Rick McCallum worked together to minimize bureaucratic red tape involved in seeing only content. But the scarcity of definitive Episode I information meant that the game designers were kept to a tight plan, and required to follow very specific directions. Consequently the game design kept changing right up to the ship date.

Back in the early days of the company, when only a handful of enthusiast gaming magazines talked directly to the hardcore gaming audience, a live marketing event that LucasArts hosted might have drawn fifty attendees, maybe a hundred. Episode I was a different beast, as the movie (and by extension, the game) was plastered across magazine covers, ranging from the expected science-fiction and videogame enthusiast publications to more mainstream titles like *Rolling Stone*. Part of the movie marketing had involved



Above and opposite: Concept art of the tracks for *Star Wars: Episode I Racer*, by Peter Chan, circa early 1998

Above left: Screenshot from *Star Wars: Episode I The Phantom Menace*, showing a Jedi defending himself against a group of battle droids

the creation of psychographic models that divided the audience into categories, and the success of the film was attached to the ability to attract the attention of those demographics outside the anticipated core market.

Despite the media frenzy that went way beyond the company's marketing dollars—the whole world seemed to be on the edge of its seat—LucasArts decided to release the *Star Wars: Episode I The Phantom Menace* adventure game only for PC and



Box art for Star Wars: Episode I The Phantom Menace (1999).

Top: The characters from Star Wars: Episode I The Phantom Menace were digitally re-created (even the digital characters, such as Jar Jar Binks) for use in the game. Right: Screenshot from Star Wars: Episode I The Phantom Menace.

PlayStation. Though *Star Wars: Episode I Racer* appeared on the N64, the financial burden of having cartridges for that platform—when inventory investment had already been poured into one game—resulted in the movie game not appearing on that console, according to Sorensen. Outreach to the potentially massive audience was enhanced by TV advertising, which, according to marketing director Mary Bihn, helped tip the game beyond the one-million-units sales mark.

Shortly after *The Phantom Menace* game shipped, two more titles themed alongside the blockbuster movie were produced for the console platform. *Star Wars: Episode I Battle for Naboo* (2000) was slated for the N64, and *Star Wars: Episode I Jedi Power Battles* (2000) provided gaming options for both PlayStation and Sega Dreamcast gamers, right



as the latter platform was declining rapidly in the marketplace. Other console releases, however, often failed to take advantage of the segment's audience awareness of the Star Wars brand. It was clear that a shift in high-level thinking was needed to re-establish the link between LucasArts and the revitalized *Star Wars* franchise.

Misses and Hits

Just before and after *The Phantom Menace* was released, an anticipation of the new Star Wars prequel trilogy excited fans to a fever pitch. LucasArts aimed to release a branded game to every conceivable genre.



Star Wars: Rebellion

The attempt to craft a game involving strategic domination of the galaxy failed to impress gamers and critics, and upon release it was quickly consigned to the bargain bin. The strategy gameplay mechanic was deep and intricate, but uninviting to a broader audience. Illustrating the vagaries of game development, *Rebellion* (1998) was released in the same year that *Grim Fandango* would garner huge critical success.



Star Wars: Force Commander

LucasArts made another attempt at the booming PC real-time strategy genre with *Force Commander* (2000). But the promise of commanding battalions of AT-ATs in massive, commissioning both infantry and aerial units failed to deliver the second surprise. A graphics engine with dated, clunky assets and a clumsy control interface turned an exciting genre—but they wouldn't have to wait long to get a game that would let them explore the buildings, units, and manage military command scenarios of the epic *Rebels vs. Empire* conflict.



Above: *Star Wars: Rebellion* (1998) placed the Star Wars units and characters in a detailed strategy simulation; seen here with a screenshot of *Rebellion* advisor C-3PO.



Left: Screenshot from *Star Wars: Force Commander* (2000) showing deployment of Mon Calamari.



Above: Box art for the Nintendo Game Boy Advance game *Star Wars: Episode I Battle for Naboo* (2000).

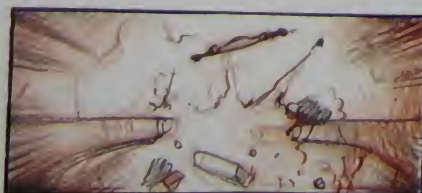
Right, and opposite (top and middle): Storyboards of the level progression in *Star Wars: Episode I Battle for Naboo* by James Zhang. The site replicated the famous dogfights of the movie. *Star Wars: Episode I Battle for Naboo* was a hit, and led a wave of similar games in the genre.

Battle for Naboo Storyboards Level 14 page 4

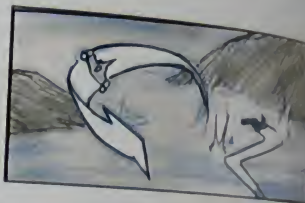
ENDING CUTSCENE



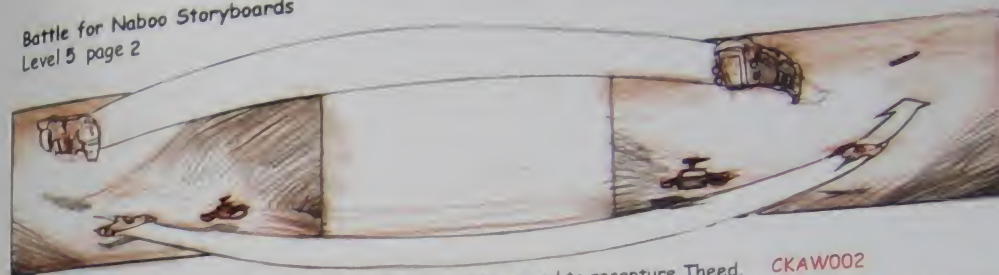
Camera Zoom in



Battle for Naboo Storyboards Level 8 page 3

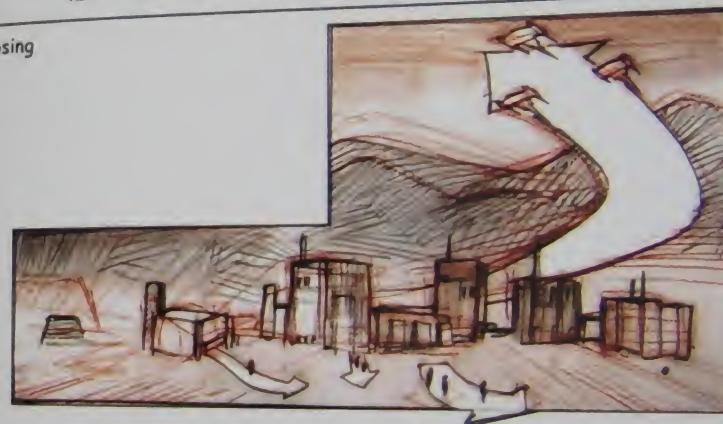


Battle for Naboo Storyboards Level 5 page 2



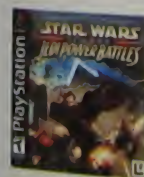
Kael: The Hutt might have the weapons we need to recapture Theed. CKAW002

L5 Closing



Tracking shot of Theedians running out from buildings. Then Naboo Starfighters take off up over the tundra.

Star Wars: Episode I Jedi Power Battles



Based loosely on the *Star Wars: Episode I The Phantom Menace* plot, *Star Wars: Episode I Jedi Power Battles* (2000) enabled gamers to play as one of five Jedi Masters: Qui-Gon Jinn, Obi-Wan Kenobi, Mace Windu, Plo Koon, and Anakin Skywalker. The game had great potential because its gameplay focused on two enticing Jedi abilities: lightsaber battles and Force powers—and because of limited experience from the film marketing. Unfortunately, control challenges led to a tepid response by the gaming media.



Left: Concept art showing giant raptors for *Star Wars: Episode I Jedi Power Battles*, artist unknown.



These Monkey Island characters in the top row were used in *Escape from Monkey Island* (2000), while the others were used in *Monkey Island 2: The Legend of Kneesdeep* (2001).



Monkey Island Adventures

In keeping with the enduring company philosophy of producing games across platforms and genres, another installment in the Monkey Island series was devised. *Escape from Monkey Island* (2000) was the fourth in what was originally conceived as a three-part story arc. "We knew we were taking a gamble when we put it out," recalls Mary Bühr. But with so many *Star Wars* games on the development schedule, it was important to remind the public that LucasArts was still capable of producing its own original titles.

For the return of such a beloved franchise, the state-of-the-art reception was disappointing, but retail response was buoyed by overseas interest and sales—particularly in Europe, where the demand for adventure games hadn't fallen as flat as it had in the United States.



Above: Box art for *Escape from Monkey Island* (2000).

Top: Guybrush Threepwood (twisted) and Elaine surrounded by monkeys, artist unknown.

Left: A romantic interlude in *Escape from Monkey Island* is paired with concept sketches (artist unknown).



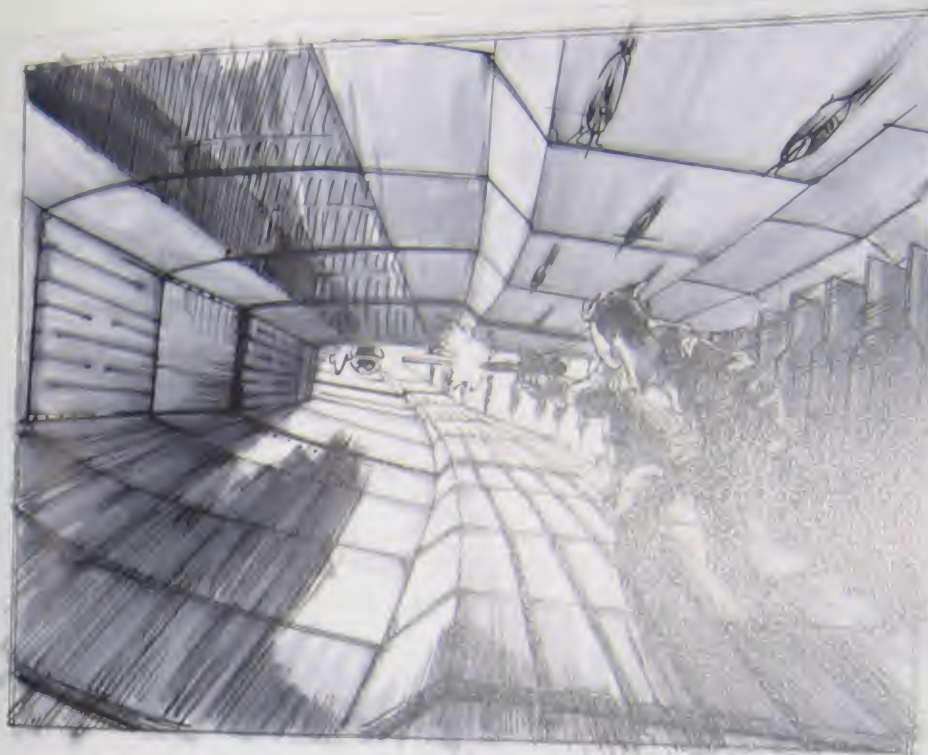
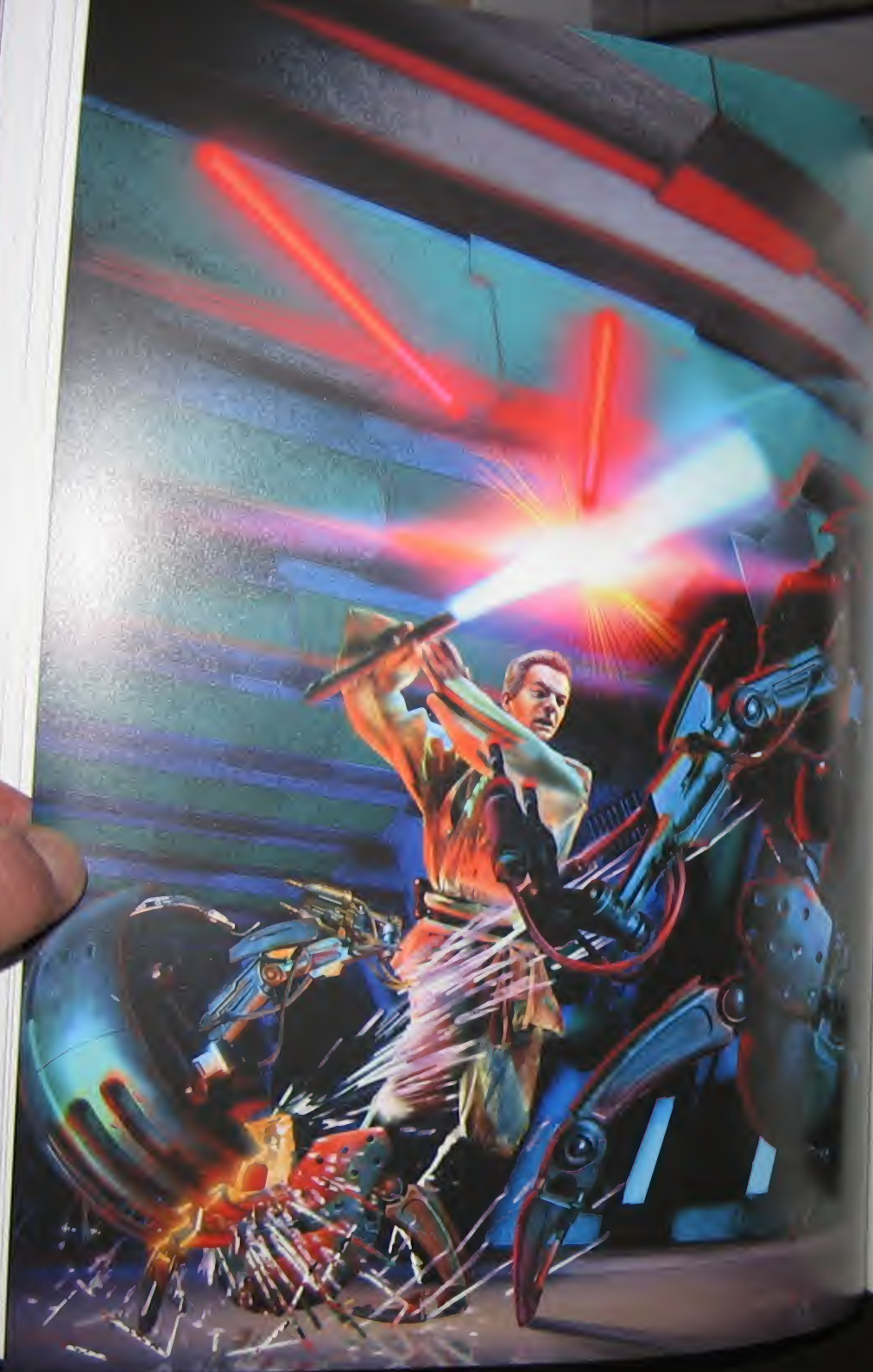


Opposite: Echoing the iconic poster image used to promote *Star Wars: Episode I The Phantom Menace* in movie theaters, Guybrush reflects his inner monkey by Eddie Del Rio.



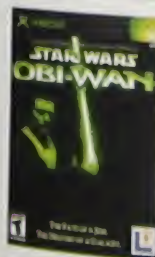
Left (top and bottom): Screenshots showing Pete's hideout and Guybrush challenging Marco de Pollo to a drinking contest from *Escape from Monkey Island*.

Talk to Marco de Pollo



CN11001T
BATTLESHIP
AIR SHAFTE

Obi-Wan in Action



Star Wars: Obi-Wan (2001) was closely followed as a direct follow-up to Jedi Knight (1997), making a happy reunion for fans and critics who had missed the Dark Forces impact with numerous accolades. The game's story continued the timeline of the Skywalker saga, placing before the film and ending with the Death Star's destruction. The game played as Obi-Wan, filling in the gaps in the movie's chronology with events that occurred off-screen.

Development emphasized the building of a brand new 3D engine to power lightsaber action and master gameplay that focused mostly on navigating the environment, rather than just trying to win. Reunited fans in a development cycle as it emerged that the game might not live up to the expectations of the Jedi Knight-fueled PC game. Obi-Wan was cancelled for the PC and a cash refund in 2001, only on the Xbox. But PC gamers would have to wait some time. It was to get lost that Jedi Knight's successor, Jedi Outcast.

Openings: Vertical ones (horizontal and diagonal) reinforced with ring. The heavy concrete through openings is reinforced with a steel beam and channel connected to steel reinforcement. Also, Yields to Group Analysis.

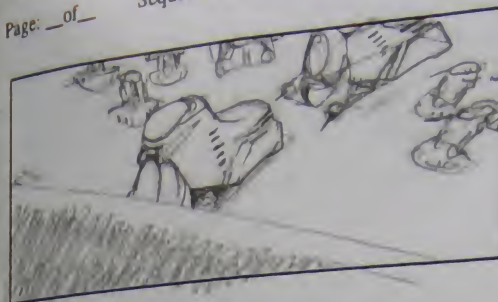
Page 44: Turkey Plover (1994)
 Photo by: The Ohio State Univ. Wm. S. Gray, M.D.

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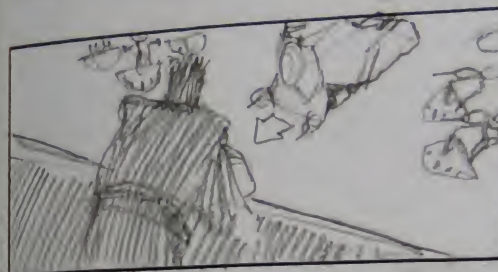


Page: of Sequence: STANWAY Title: OBI WAN

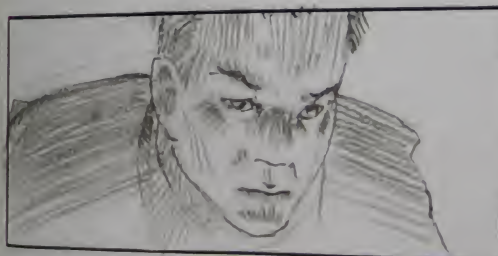
Date: 9/27/99 Artist: GK



Notes: SHOT ABOVE WING
LOOKING DOWN ON
WTT'S & TANKS LOADING.



Notes: OBJ ENTERS & WATCHES
GOING-S-ON



CUT TO
Notes: CU OBJ
EYES SCAN MOTION -
CUT ON STARTING TO
GET UP



CUT TO
Notes: OBJ CONTINUES MOVEMENT
LEAVES SCREEN



G. KNAIGHT 7-98



Sawyer

Above and right, top: Character art for Sawyer, by Greg Knight, January 2000

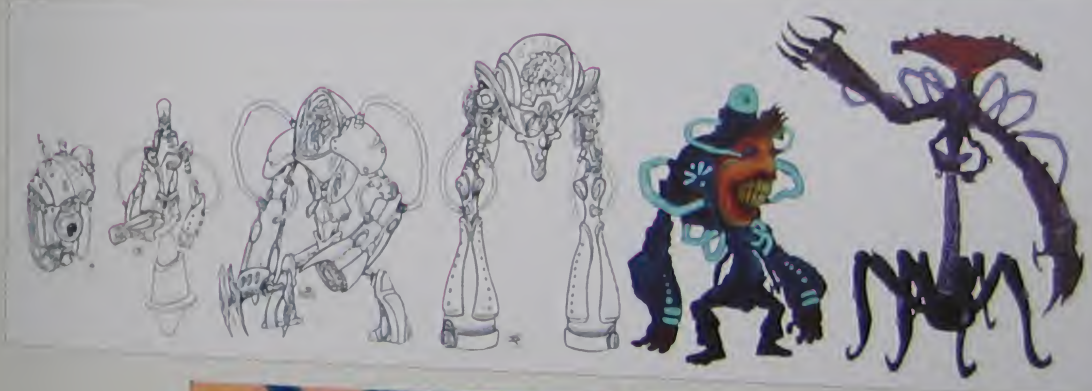
Right, middle and bottom: Concept art for Sawyer, by Eddie Del Rio

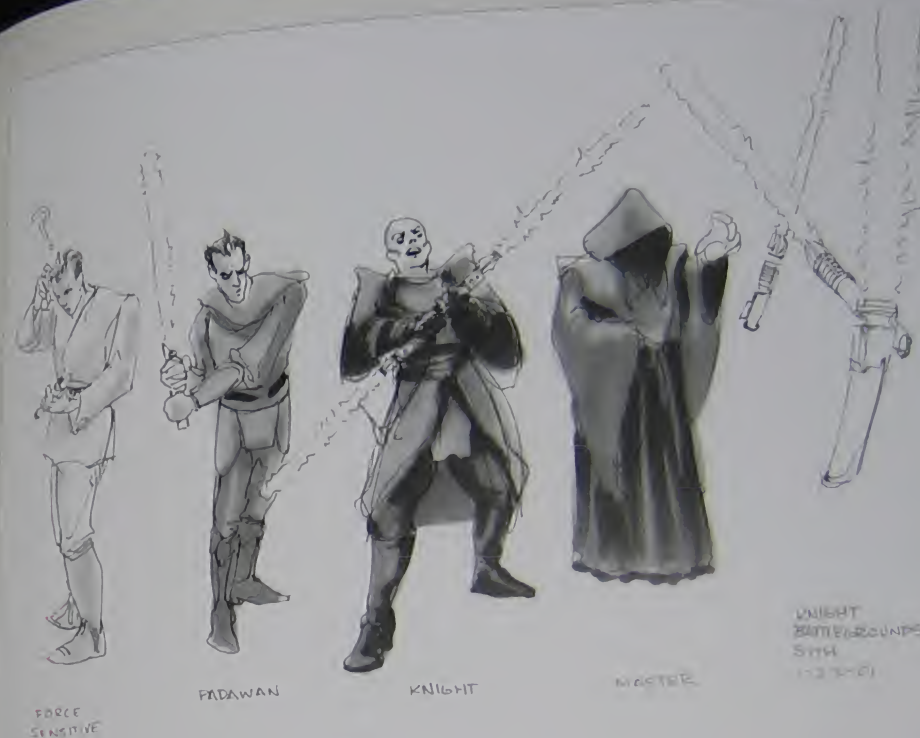
Opposite: Character development and concept art, by Kathy Hoen (top) and Eddie Del Rio (middle and bottom)

In 2000, LucasArts planned to rekindle some of its quirky, comedic adventure roots with a game concept that was likened to *Zombies Ate My Neighbors* (1993). According to John Stafford, who was involved in some of the design meetings, it centered on a young boy fighting aliens with his gang of friends in suburbia. Using slingshots, bottles, squirt guns, and other "toys," the kids would overcome great odds and beat the pesky aliens, all without any adults finding out. However, the team was eventually reassigned to *Star Wars: Bounty Hunter* and Sawyer was cancelled.



"Sawyer changed directions many times," says artist Greg Knight. "We were trying for a retro sci-fi direction akin to Flash Gordon—so much so that we considered [rock band] Queen for the soundtrack. I think in some influences from *The Rocketeer*, too."





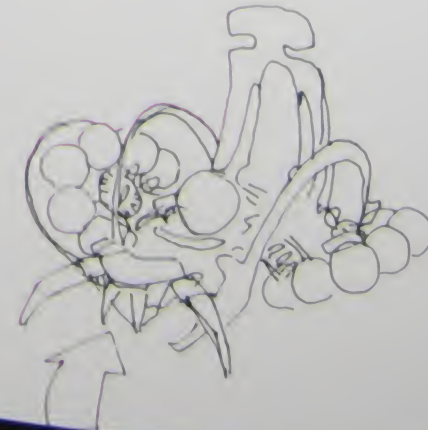
A Galactic Strategy

Past *Star Wars* strategy games had struggled to deliver the gameplay expected by an enthusiastic fanbase. For *Galactic Battlegrounds*, however, LucasArts used a new tactic that would set a precedent for future hit-game development. Rather than create its own unique engine technology, LucasArts licensed the engine that powered real-time strategy smash *Age of Empires II*. Without the need to apportion resources to core technology creation, the team was able to produce a game design that used established (and top-selling) gameplay mechanics. The isometric perspective was familiar to gamers who had bought millions of games like those in the *Command & Conquer* series. Now that format was populated with AT-ATs, battle droids, Gungan sea units, and playable hero characters such as Luke Skywalker, Emperor Palpatine, Princess Leia, and Han Solo, it was therefore a much easier sell to fans of both the real-time strategy genre and *Star Wars* gaming.





KNIGHT
BATTLEGROUND
GUNGAN
BLASTER CANNON
7-20-01



Left: Concept art by Greg Knight of the Gungan blaster cannon, illustrating its moving parts and how it would fire in *Star Wars: Galactic Battlegrounds*, July 20, 2001.

"Accuracy within the *Star Wars* universe was a priority," says artist Greg Knight of the *Star Wars: Galactic Battlegrounds* concept art. "If a design didn't exist from the movies, we created something new, but anchored in something recognizable. Unlike any other project I worked on, the [success] of this project making deadlines fell completely on the art. The technology was mostly complete when we received it, but the art needs were daunting."



CHAPTER SEVEN

DEVELOPING WITHOUT WALLS

2001-2007

Change was brewing. Every single game LucasArts released in 2002 was set in the *Star Wars* galaxy. In the previous year, only a PlayStation 2 port of *Escape from Monkey Island* stood out from another *Star Wars*-focused release list; and of the seven games LucasArts published in 2000, the only non-*Star Wars* entries were the original PC version of *Escape from Monkey Island* and a Nintendo 64 port of the 1999 PC release *Indiana Jones and the Infernal Machine*.

Episode I *The Phantom Menace* had reinvigorated the *Star Wars* gaming brand, introducing its new story to a young, content-hungry audience. Its popularity seemed to imply that the expanded audience would eat up any interactive-entertainment products that were set in this new *Star Wars* timeline.

Indeed, the classic trilogy was temporarily outtracked in favor of Prequel Trilogy games that rushed to market to capitalize on consumer demand for content. "When we had lost that period, it was not a good thing to do," says Mary Bühr. "We went from a period of games that were very high-quality to a period where, I think, we lost some of the vision, and we were in a survival mode."

To effect change, LucasArts recruited a lot of external development talent that it was able to churn out these games, and the company made a conscious decision to ally its remarkable pipeline of top-quality, premium-level developers. Instead, the publisher initiated a return-to-quality movement that was not to be measured in fans or the profit line, but was that if the company succeeded in raising the quality bar for all in production.

LucasArts took several ideas for creating new *Star Wars* games to some of the leaders in the biggest genres.



SS HEAVY FIGHTER



board, that shift would be recognized and reflected in the feedback received from gamers and buyers.

The year 2001 was still commercially successful with the release of the chart-topping *Star Wars: Starfighter* (2001) on the PlayStation 2. Lucas Licensing gave its blessing to include the new Jedi starfighter from Episode II in the game, even though it would hit shelves several months before the movie would showcase the craft's sleek design in theaters. However, with LucasArts' renewed commitment to quality, the publisher elected not to develop a game for *Attack of the Clones*, as time constraints would have made it extremely difficult to produce a high-quality product.

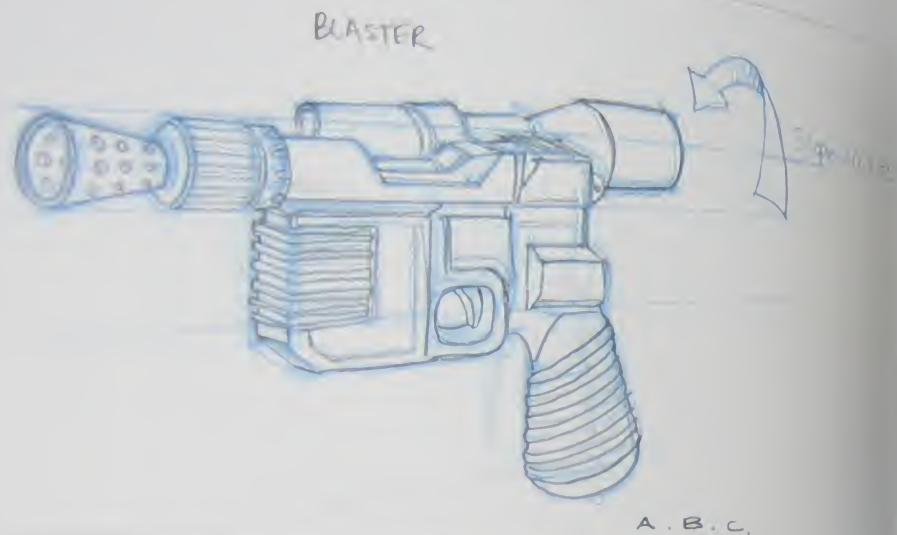
(continued on page 156)



Above: Box art for *Star Wars Starfighter* (2001) and *Star Wars Jedi Starfighter* (2002)

Left, top: Concept sketches, painting, and scale views of the Heavy Fighter for *Star Wars Jedi Starfighter*, by Amy Beth Christenson

Left, bottom: Hangar concept painting from *Star Wars Jedi Starfighter*, by Christenson



Top: Blaster sketch for *Star Wars: Jedi Starfighter* (2001), by Amy Beth Christensen, circa 2000

Above: Painted cutscene representing color palette for *Star Wars: Jedi Starfighter*, by Christensen, circa 2000



Top: Concept painting of an action scene for *Star Wars: Jedi Starfighter*, by Christensen, circa 2000

Above: Concept painting of a Jedi starfighter showcasing its power, by Christensen, circa 2000



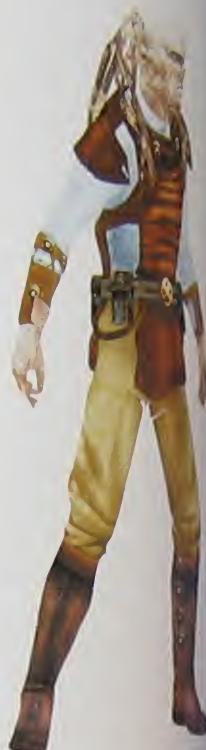
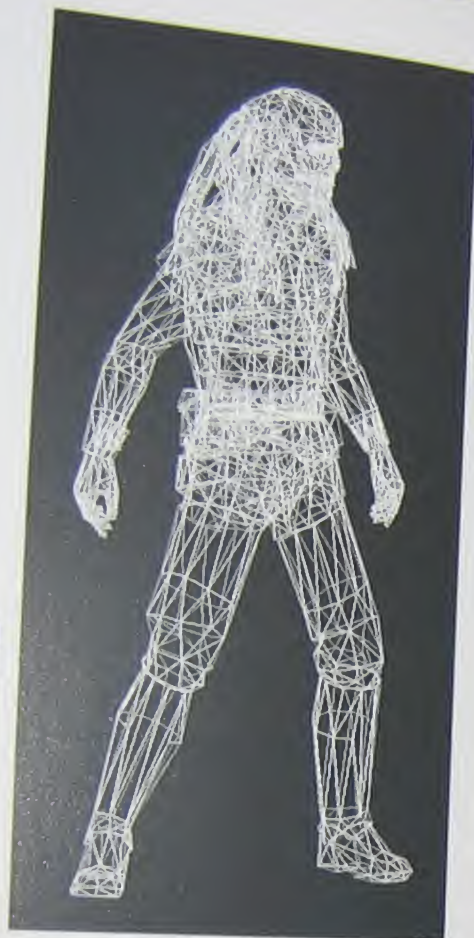
Artwork: Box art for *Star Wars Jedi Knight II: Outcast* (2002)

Top, left: The wireframe image from the 3-D character models highlights how many polygons will go into creating a single character in *Star Wars Jedi Knight II: Outcast*, artist unknown.

Top, right: The final shaped and textured creature that a player sees in *Star Wars Jedi Knight II: Outcast*.

Right: X-wing drawing, artist unknown.

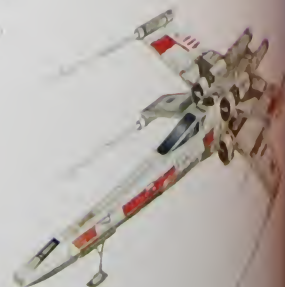
Opposite: Painting by famed *Star Wars* artist John Arvin.

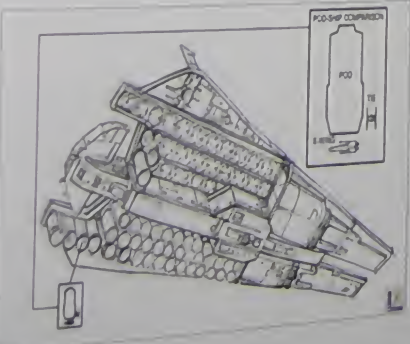
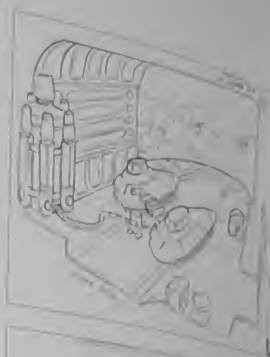
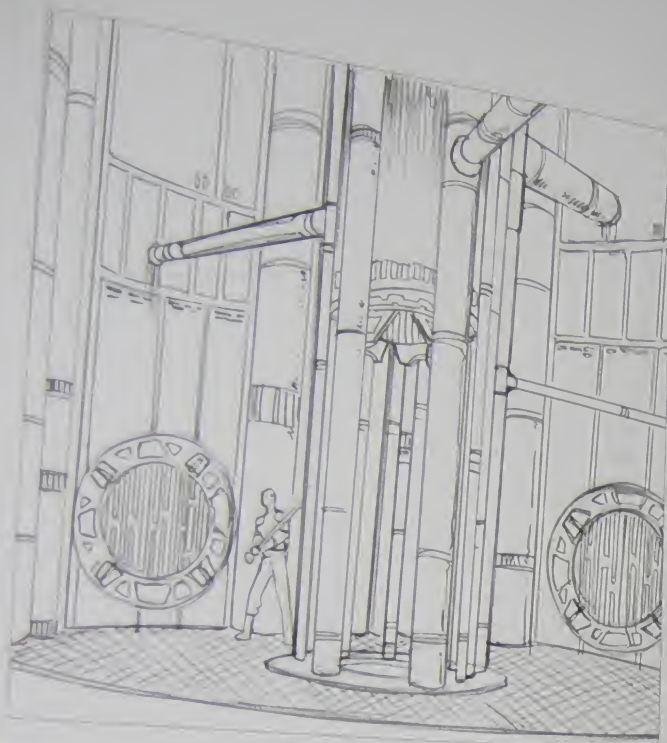


KEYS TO THE KINGDOM

LucasArts took several ideas for creating new *Star Wars* games to some of the leaders in the biggest genres. Raven Software had made a name for itself in the first-person-action market with *Hexen* (1995) and *Heretic* (1998), and, more recently, in offering a high-quality *Star Trek* action experience with *Elite Force* (2000). This team was chosen to continue the Jedi Knight franchise, and it delivered a superb shooter—*Jedi Knight II: Jedi Outcast* (2002)—which could stand beside the much-loved original Jedi Knight.

In 2002, LucasArts president Simon Jeffrey approached BioWare—a studio known mainly for its tremendously deep, story-driven role-playing games—to produce a role-playing game (RPG) set in the *Star Wars* galaxy. After some mutual brainstorming, it was decided to set the game thousands of years before





"We got the chance to explore existing worlds and to add to the official *Star Wars* canon, including a brand-new race, the Selkath of the water world Manaan."

—Ray Muzyka, CEO of BioWare



During the development of *Star Wars Jedi: Outpost*, BioWare were able to explore existing worlds and to add to the official *Star Wars* canon, including a brand-new race, the Selkath of the water world Manaan," explains BioWare co-founder Ray Muzyka. With so many *Star Wars* fans on the team, it was easy to keep design ideas within the broad boundaries set by the Lucas Licensing department. "We worked hard to stay true to the original IP [so only a handful] of our concepts came back with suggestions for revision," adds Muzyka.

Out of this arrangement—expert RPG developers working within a vastly original setting—was born a massive critical and commercial success. *Knights of the Old Republic* went on to spawn a sequel, developed by Obsidian Entertainment, which lived up to the high standard of its predecessor.

(continued on page 104)

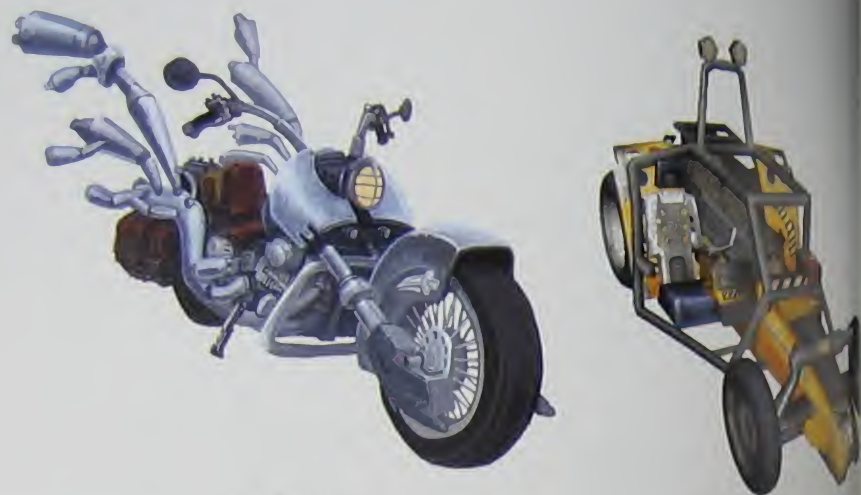
This page: For *Star Wars Jedi: Outpost*, each location had to be sketched out in detail before being built in the game engine. As seen in these pieces by Jeff Moy, increased game-level complexity required more pre-production. Characters are drawn into the lines, such as a power shift or finger, to help convey the size and scale of each environment as reference for when it is built in the game engine. Some of the areas are vast, and even the ship design (bottom left), the visualization of TIE fighters and X-wings provides a sense of scale for the Pod Ship design.

Top: Box art for the PC version of BioWare's *Star Wars Jedi: Outpost*.

Above: Box art for Obsidian Entertainment's *Star Wars Jedi: Outpost*.

Left: Screenshot of a battle with Tusken Raiders from *Star Wars Jedi: Outpost*.

Far left: Screenshot showing from *Star Wars Jedi: Outpost*, artist unknown.



Full Throttle 2

Illustration: MFL Final version of Ben Tilden's motorcycle, by Eddie Del Rio, circa 2002

Illustration: MFL Final version of Ben Tilden's dune buggy, by Eddie Del Rio, circa 2002

Illustration: Concept painting showing the motorcycle pulling up to a gas station, by Kathy Hsieh, circa 2002

Illustration: Concept painting of Ben Tilden with a crowbar, by Del Rio, circa 2002

Twice, LucasArts put a sequel to Schafer's *Full Throttle* into production. The first, subtitled *Payback*, was cancelled relatively early in its development cycle. When this news leaked out to the fans, the passionate voice of the dwindling traditional-adventure-game player was heard, but it was clear around the PC-games industry that the demand for that style of game was waning. The invention that LucasArts always seemed to bring fresh to the table was also becoming more expensive. The man-hour resources required to design those games, create the art, and build new game engines didn't add up when projected sales were factored in.

Fast-forward to several years after *Full Throttle*, when the developers had moved from 3D to 2D. They conceived a more action-focused game: *Full Throttle: Hell on Wheels*. The game was announced in 2003, and a playable version was shown at E3. However, concerns that LucasArts was rejecting its more action-fueled games, and that the audience wouldn't consider the game a sequel, resulted in yet another pivot. With *Full Throttle* so near, and this cancellation coming at the time of the *Max* sequel, many fans expressed their disappointment in abandoning its roots.





Above: Box art for *Star Wars Galaxies* (2003) and *Indiana Jones and the Emperor's Tomb* (2003).

Right, top: A collection of characters who could band together on missions in the massively multiplayer online role-playing game *Star Wars Galaxies*.

Right, bottom: Several months after the core game shipped to retail shelves, a space-based expansion—*Jump to Lightspeed*—introduced space and space combat to the *Star Wars Galaxies* gameplay.

THE ADVENT OF THE MMORPG

Alongside first-person action games and single-player role-playing games, one of the biggest emerging genres was the massively multiplayer online role-playing game (MMORPG). Sony Online Entertainment had helped revolutionize this community-driven role-playing experience when it launched *EverQuest* in 1999, and former head of LucasArts game development Kelly Flock was now employed at Sony Online. Through Flock's connections with LucasArts' then-president Jack Sorensen, the parties began to investigate the feasibility of a massively multiplayer *Star Wars* game. The "million-player *Star Wars* game" notion that had been pitched to LucasArts back in 1990 finally looked like a technical and game-design possibility. Simon Jeffrey completed the deal for LucasArts as he took over as president, and within just two months of the first discussions, a development plan was in place for *Star Wars Galaxies: An Empire Divided* (2003).

Initially, the pitch was simple: Make something like *EverQuest* but in space. With Sony Online's MMORPG hit boasting some 300,000-plus subscribers—each paying a monthly subscription fee to give them access to the gameworld—it was clear that the design was speaking a language that an enormous number of gamers understood and embraced. Applying that gameplay mechanic to the massive reach of the *Star Wars* brand had the potential for a huge hit. But enabling fans to interact within the *Star Wars* galaxy presented conceptual challenges.

LucasArts wanted to investigate a different kind of persistent online gameplay, and during the rethink, Sony Online shifted its development operation from San Diego to a new studio in Austin, Texas. According



to Sony Online president John Smedley, "In some time to make the most of the game, a game of this magnitude would not. The stretching blocks were how to get right to the Force," he recalls. "We had no sense of what would want to be a Jedi... with all that said, we came... but it didn't make sense. It was a... The original move... away from a... growth was possible only if the most... mechanics of what... from the player. If the..."



Above: June 2002 issue of *Computer Gaming World* featuring *Star Wars Galaxies* (2003).

Left: Painting of Darth Vader used as part of the promotional material for *Star Wars Galaxies*, ©1981 unknown.



Above: Box art for Gladius (2003)

Top: Character sketches from Gladius by James Zhang, circa 2001

Bottom: Sketches of the Dark Legion and Greater Cyclops by Zhang, circa 2001

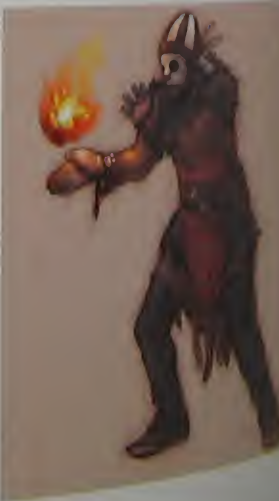
Opposite: Concept sketch for Nephila by Zhang, circa 2001



Gladius

Gladiatorial combat was the focus of the RPG strategy game Gladius, as you molded a team of warriors to fight in the ancient arenas. Inventive character and creature design (as evidenced in the concept art by James Zhang) and an entertaining gameplay mechanic made the game a hit with the relatively small audience that bought it.





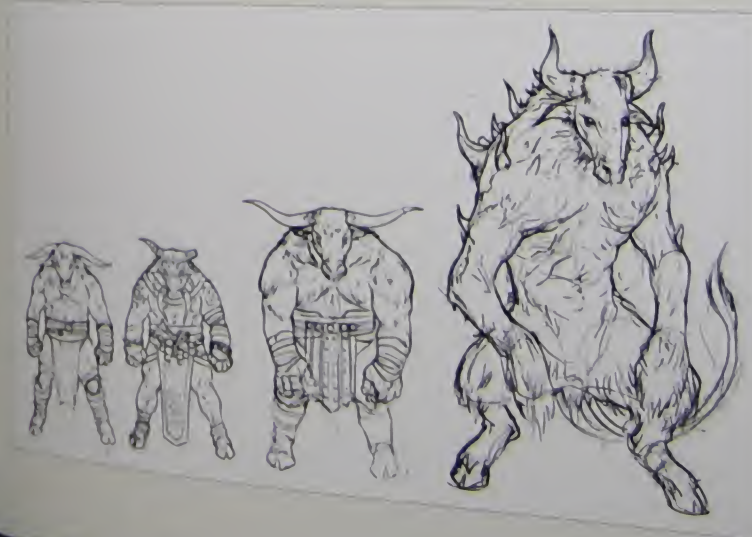
Pangaea

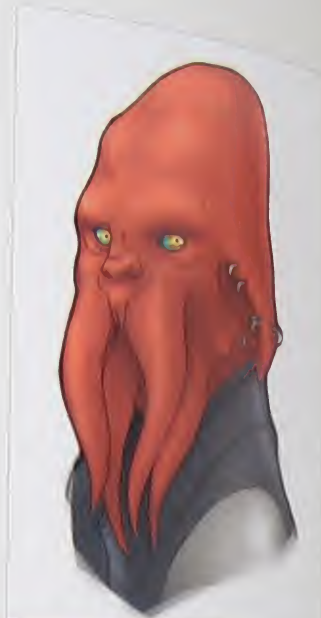
This page: Character concepts for Pangaea (clockwise from top left): Medusa, Chimera, Kelpie, and "elemental", all by Cory Allenmeier, circa 2003

Opposite: Concept sketches for Greek and Roman mythology-inspired creatures like a basilisk and minotaur by Allenmeier, circa 2003

Over time the Pangaea concept went through several iterations and directions, but was always intended to be a massively multiplayer game for the next-generation consoles (Xbox 360 and PlayStation 3). According to LucasArts lead designer John Stafford, the game was "a Greco-Roman fantasy MMO based on concepts from Gladius."

"We designed classes, dungeons, economics, a religion and magic system, and all kinds of weapons," recalls Stafford of the work that was completed. "We were dealing with lots of tricky problems, such as how to create a robust communication system without keyboards, and what kind of revenue model we wanted to pursue." These challenges contributed to the project being cancelled in 2003.





Proteus

The original Pangaea team was transitioned to a new project that was dubbed Proteus, which was to be a *Star Wars* massively multiplayer online game for the console systems (essentially an in-house—developed sibling to the PC-only, Sony Online Entertainment—developed MMO, *Star Wars: Galaxies*). According to John Stafford, the team spent between four and six months in 2003 working on game design documents, ideas, and systems before it was cancelled like its Pangaea forefather because of interface challenges and difficulties that created an unattractive revenue model.

This page (clockwise from top left): Human female by Allemeier; city on planet Bespin by Molly Denmark; Sullust by Haur; and unknown alien by Allemeier, all circa 2003





The Best of LucasArts Original Soundtracks

LucasArts has a long history of commissioning original soundtracks for its games. With talented musicians and composers such as Michael Land—who has created the MUSE sound system—LucasArts has a rich portfolio that provided enough great compositions to warrant a Best of LucasArts Original Soundtracks CD. For many fans, the music from games like *Star Wars: The Force Unleashed* and *Star Wars: The Force Awakens* were as much a part of the experience as the game itself. The "Soundtrack" tab on the LucasArts website provides a comprehensive list of the music from the Star Wars games.

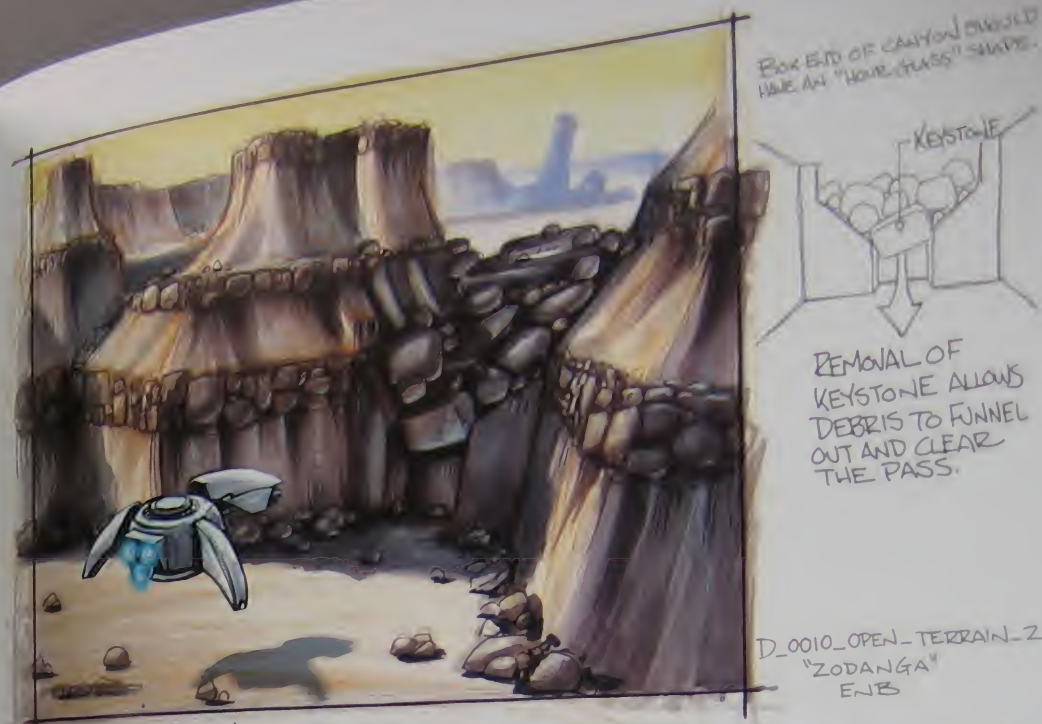
Top: The *Star Wars: The Force Unleashed* provided players with the ability to create their own Jedi, a concept that was a key part of the game's design. The "Soundtrack" tab on the LucasArts website provides a comprehensive list of the music from the Star Wars games.

plain for anyone to follow, spoiler-strewn websites would reveal the exact path in a heartbeat. Switching between all these ideas landed the final game in the middle of several competing design philosophies; it also produced the need for significant play-balancing later on to afford all the players clamoring to play as Jedi characters the opportunity to do so.

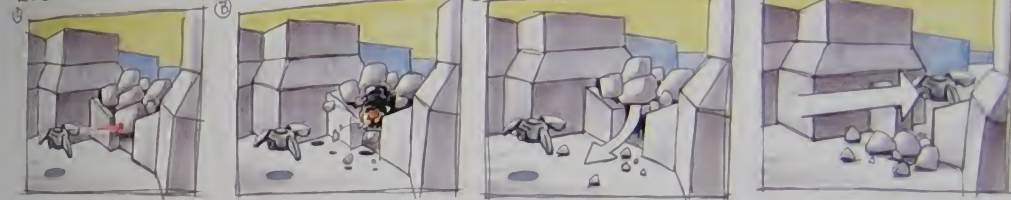
Balancing combat between ranged- and melee-attack options required its own unique fixes, as extensive feedback was delivered loud and clear, both on message boards and within the gameworld. Not surprisingly, the original design document was between two and three feet thick, packed with ideas on how to treat every eventuality the team could imagine. The decision to omit a space-based component from the game upon its initial launch proved controversial (though the ability to fly and fight in space was always planned).

Fortunately, the persistent nature of MMORPGs allows them to be constantly updated and upgraded,

so developers can tweak or reverse initial design decisions. "You should focus on gameplay, not game design," offers John Smedley, referring to the game's reaction. An expansion pack *Jump to Lightspeed*, eventually did take the adventure into space, and fixes to combat, the Jedi progression, and player-skill progression have made *Galaxies* a different—and significantly better—entity than when it first launched. In addition to formal expansion packs, LucasArts released new content for free to players, helping the gameworld to continue to evolve. The support contributed to a steadily growing subscriber base for *Galaxies*. Whereas MMORPGs typically hit a peak user level and then steadily decline, the next big game comes along, the absence of any *Star Wars* movies has led the audience to turn to the persistent-world game as a place to immerse themselves regularly in the space fantasy play-



ROCKSLIDE SEQUENCE



RTX RED ROCK

New game ideas continued to be tested during this phase of the company's history and original properties were always vital to rounding out the portfolio. Hal Barwood was project leader on RTX Red Rock (2003) and was aware through his extensive contacts around the games industry—at prominent development houses like Naughty Dog (*Crash Bandicoot*, *Jak and Daxter*) and Insomniac Games (*Spyro the Dragon*)—that studios would be burned if they didn't produce top-notch original franchises. "I don't think so, as a studio we're so aware [of this], though," Barwood recalls. "Because we could always fall back on our IP, things weren't analyzed as closely as they needed to be. Plus, the production process wasn't so rigorous—it was a strain to build each game engine again and again."

"It's a game I love..."

—Hal Barwood, designer

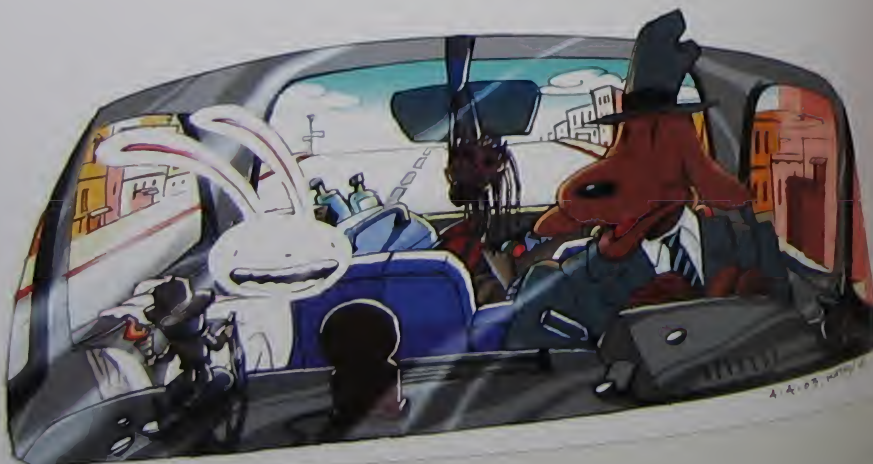
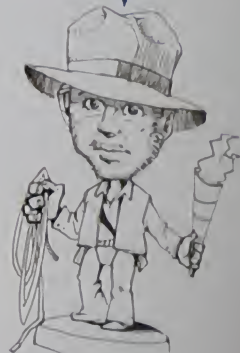
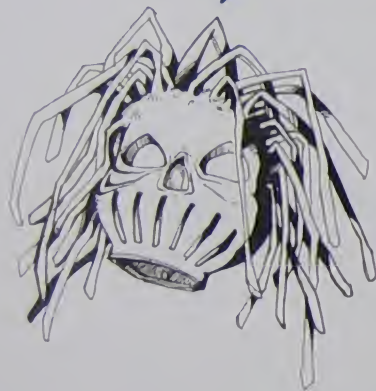
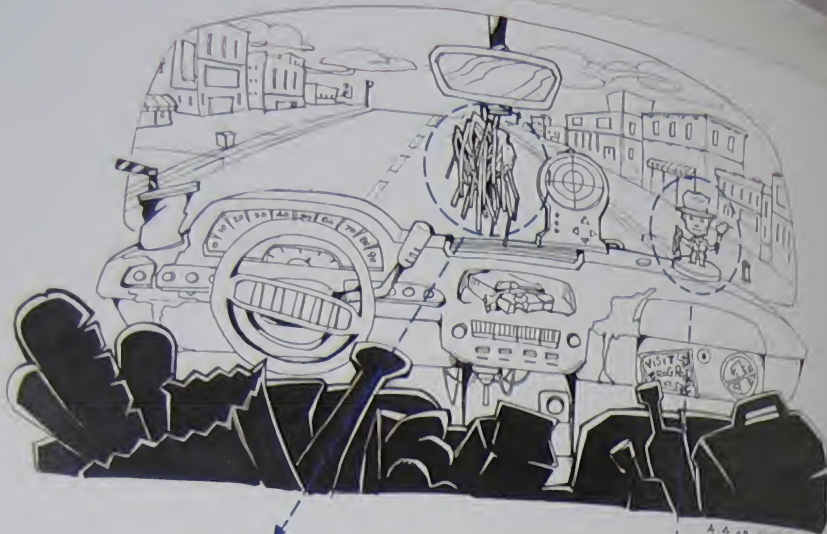
Barwood considers RTX Red Rock a painful subject. It's "a game I love," he says of the action story about aliens capturing a human colony on Mars, "but it was not reviewed well, and [it] was a dismal flop." Out of the disappointment of producing a game that performed poorly at retail and among the games press arose the realization that LucasArts needed to make fundamental changes to its business to thrive. RTX Red Rock was part of the catalyst for new president Jim Ward's 2004 company reboot.

(continued on page 176)



Above: Box art for RTX Red Rock (2003)

Top: Concept sketches for locations and scripted events for Hal Barwood's RTX Red Rock, by Ian Berry



Sam & Max Freelance Police

The project for *Sam & Max Hit the Road* (1993) was officially announced, and a few details and screenshots were released to the enthusiast press. The game would be a mouse-style point-and-click adventure, but with 3-D characters. Steve Purcell, the original comic book creator, created art for the project, and posted online that development was progressing well. It was then abruptly cancelled, with LucasArts releasing a statement outlining that the company believed the market for adventure games was too small to justify pursuing development.

Mike Stummie, who was the game's lead designer and the on-head designer on *Sam & Max Hit the Road*, suggested prior to its cancellation that the game would offer downloadable content that built on the shipping game. This concept was ultimately realized as *Sam & Max Season One* by Telltale Games, released in 2006. This *Sam & Max* game was built around a new story, but used an episodic content model to deliver chunks of the story.



Above: Concept sketches for *Sam & Max Freelance Police*, by Kathy Hsieh, circa 2003

Left: Character models for *Sam & Max Freelance Police*

Opposite: Concept sketches and paintings for *Sam & Max Freelance Police*, by Hsieh, April 4, 2003



Top: Concept art illustrating the five character classes available to players in Pandemic's *Star Wars: Battlefront*, by Cory Altemeyer

2. How do you want to be in the games business? It was obvious that LucasArts could take

Jim Ward's insurance is paid for by the company. From shortly after turning 65, he has been a defining member. According to Ward, the of Development Poor Household is...



The image shows the front cover of the PC game 'Star Wars Republic Commando'. The central figure is a Republic Commando, a clone trooper equipped with a helmet, goggles, and a tactical vest. He is holding a blue blaster and is posed in a dynamic, forward-leaning stance. The background is dark and atmospheric, with a bright, fiery orange and yellow light source on the left side, suggesting a battle scene or a planet's horizon. The title 'STAR WARS' is at the top in a stylized font, followed by 'REPUBLIC COMMANDO' in large, bold, metallic letters. In the bottom left corner, there is a 'PC' logo and an 'ESRB' rating of 'T' for Teen. A small 'GALAXY' logo is visible in the bottom right corner.

"We took film elements and tried to reimagine them from the perspective of a stormtrooper," says artist Greg Knight about the approach to *Star Wars*: Republic Commando. "Their reality is dirty and gritty. We made Geonosians vicious and deadly, and we made Wookiees 10 feet tall."

randomly president Josh Resnick (whose team was developing *Star Wars: Battlefront*) recalls Ward walking them through the internal changes, and his soliciting feedback about how the relationship with external developers should work. Though a huge challenge, *Battlefront* went on to become a huge success for the company, aided by its marketing tie-in with the



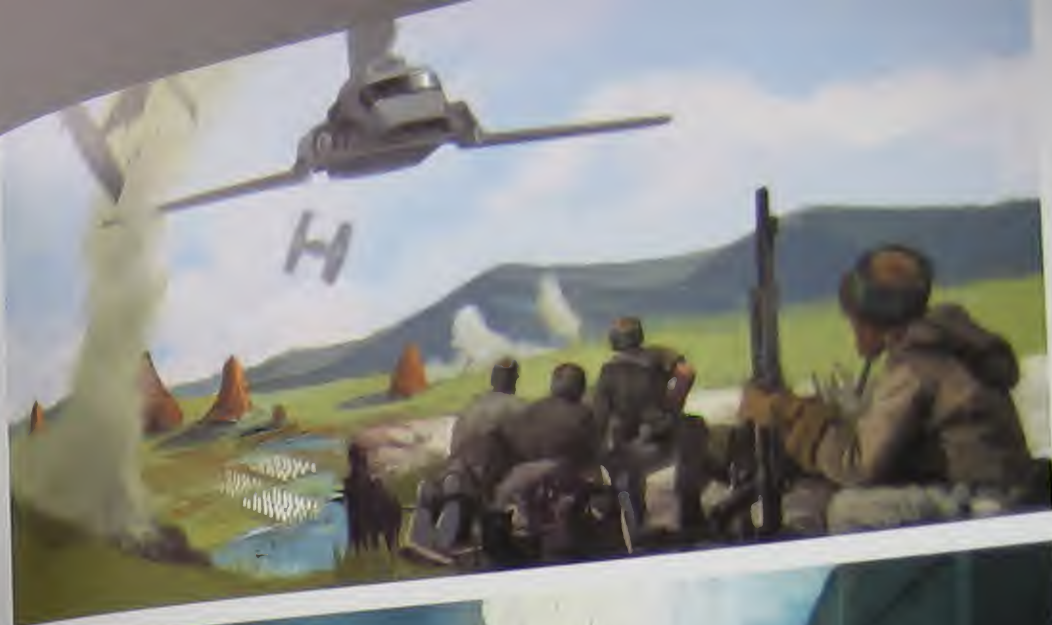
Above: Concept sketch of Imperial Scouts in *Star Wars: Battlefront* (2004) by Gary Allen.

Opposite: Colored paintings of battle scenes and locations in *Star Wars: Battlefront*, by Molly Denmark.

original-trilogy DVD release), selling as many units in its first year of release as almost the entire LucasArts catalog from the previous three years, and becoming the biggest-selling *Star Wars* game of all time. "We definitely felt that with *Battlefront* we were building a franchise," says Resnick. "But we couldn't anticipate how wildly successful it would become."

For the development team on *Star Wars: Republic Commando*, the reboot news didn't paint a beautiful picture of the future. In a company meeting, it became clear that as many as two-thirds of the group would lose their jobs after the game shipped.

A great incentive package was prepared for team members who stayed and completed the game, but the reality of the situation was laid out so that each employee could make his or her own decision. The vast majority elected to stay and finish, and though Republic Commando wasn't a stellar performer, Hirschmann was pleased that it "did its job."





Top: Box art for *Star Wars: Wrath of the Sith* (2004).

Right: Concept art for the *Star Wars* Battlefront II (2005) game, showing a Jedi in a dark, forested environment.

Below: Concept art for the *Star Wars* Battlefront II (2005) game, showing a Jedi in a dark, forested environment.

Below: Concept art for the *Star Wars* Battlefront II (2005) game, showing a Jedi in a dark, forested environment.



After deciding not to produce an Episode II game, the company decided that one was needed for the future of the franchise. Development had begun internally with the intention of using the engine that had powered the 2002 release *Star Wars: Bounty Hunter*. The strategy proved ineffective, so LucasArts hired external developer The Collective to bring the game to market in an abbreviated cycle. Between creating an anthology, working with an external group, and incorporating a story that was closely guarded on the movie side, timing the flexibility of the game to the project was a huge challenge for both developer and publisher. However, the result was a game that managed to support the movie release, and as Hirschmann says, "It came together well at the end."

Right as development was concluding on the first *Battlefront* game, Ward asked if round two could be moved within a year—a schedule that would enable the game sequel to share marketing tie-ins with DVD and movie releases. After a quick and amiable negotiation with Pandemic Studios—given that the technology was mature and most of the team had already from the original game to its follow-up—*Star Wars: Battlefront II* (2005) went into production. For its opportunity to introduce the new units

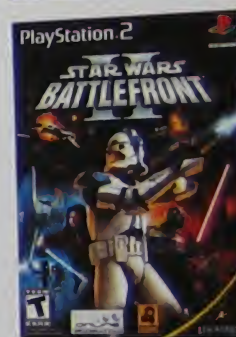
and locations that would debut in *Revenge of the Sith* proved to be both a blessing and a curse. These new aspects would attract gamers to the franchise, but trying to acquire the assets from a movie still in production that would allow the developers to build the in-game units is "never a fun or easy process with anyone," explains Pandemic's Resnick.

In addition, cramming the giant amount of content from the different gameworlds, play modes, and characters onto the Sony PlayStation Portable platform proved to be a major undertaking. Engineers from LucasArts' internal *Indiana Jones* and *Star Wars* development teams were brought in to optimize the code, working line by line to find where they could get an extra half- or quarter-frame a second. "It was a huge 'pop the champagne' day if you got back one whole frame a second," recalls Hirschmann. But over the course of eight weeks, *Battlefront II*'s PSP version evolved from an utterly unplayable four- or five-frames-a-second performance to a smooth experience that has sold well over 500,000 copies worldwide.

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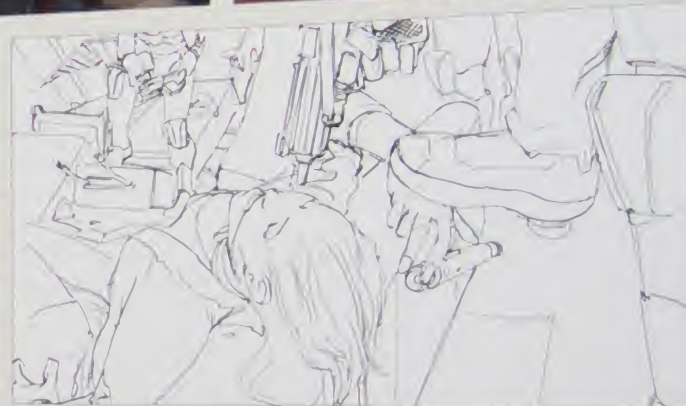


Top: Box art for *Star Wars: Episode III Revenge of the Sith* (2005).



Above: Box art for *Star Wars: Battlefront II* (2005).

Right: In game screenshot of Boba Fett and Darth Vader from Star Wars: Battlefront. The game was one of the most successful original movies.



Imperial Commando

Many game concepts emerged out of the military command structure and naming conventions that had the potential to inspire specific gameplay ideas. While *Star Wars: Republic Commando* was released in 2005, a sequel already planned based on the Imperial commando units—the Empire's elite ground combat troops—got no further than concept artwork and was cancelled in 2004.



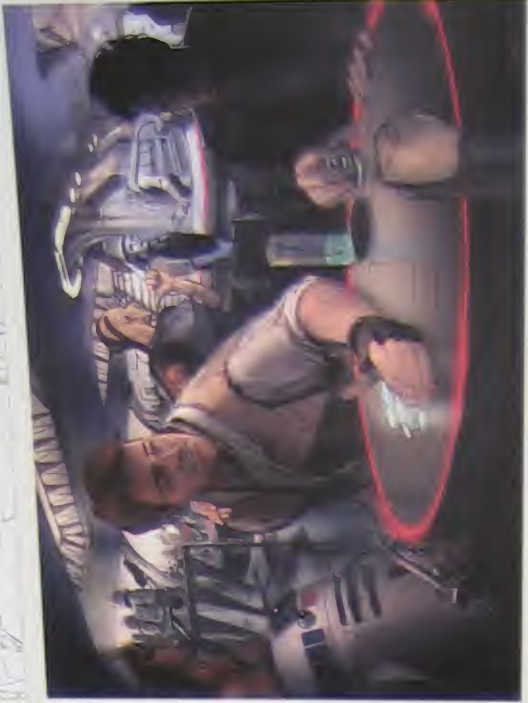
This page: Concept sketches and paintings from *Imperial Commando* by Greg Knight, circa 2003–2004.



Smuggler

Emerging in 2004 with a remit from company president Jim Ward to find new *Star Wars* stories to develop into games, the team spent some time working on the concept of being a smuggler in an Imperial-dominated galaxy. While the rewards for buying low and selling high would be enormous, the danger of running afoul of the Imperial authorities would

give every decision an extra-keen edge. According to Jim Stafford, this concept though cancelled, eventually merged into a project known as *Scum and Villainy*, and that in turn would emerge from its planning stages as *Star Wars: The Force Unleashed* (see page 214).



Opposite and this page: Concept art for *Smuggler* by Greg Knight, circa 2004–2005. "Art was very powerful during this process," says artist Greg Knight about new *Star Wars* game pitches. "He really called it was the best way to quickly convey an idea and really support for that idea. Artwork respecting gameplay and story elements became more important than designing epic landscapes or ruins of armor. That's outside of what a concept artist is usually asked to do, but it was a better form of collaboration and less of 'fine'."





Top: Box cover for Armed and Dangerous

Above: Box art for *Secret Weapons Over Normandy* (2003) by Matt Hall

Right, top: Powerful aerial imagery sets the scene for epic dogfights such as with this RAF Spitfire setting a Messerschmidt Bf 109 ablaze, by Paul Pierce

Opposite: Bold, colorful imagery showcases the aerial action in Larry Holland's reprise of his flight simulation route with Secret Weapons Over Normandy, by Pierpa. This painting depicts a P-38 Lightning knocking out a Messerschmitt Bf 109.



"I was thrilled at how the game turned out on Xbox and PS2."

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Capturing Creativity: Secret Weapons Over Normandy and Armed and Dangerous

If LucasArts' early golden age occurred in the late 1980s and early 1990s—on the back of Secret Weapons of the Luftwaffe, Monkey Island, X Wing, and then Dark Forces (all candidates for a great gaming hall of fame)—then 2003 showed an attempt to recapture that magic. A relationship between Larry Holland, the independent contractor whose Totally Games studio had produced the award-winning X Wing series, and Randy Breen, who had been an associate producer at Electronic Arts on Holland's Strike Fleet, encouraged them to produce a World War II game together, and the result was Secret Weapons Over Normandy (2003). This new game merged vintage Secret Weapons gameplay with a TIE Fighter-style story-driven experience. In a nod to Holland's 1988 epic, the game's elite squadron was called The Battlehawks. Secret Weapons Over Normandy was built as a console game, launching on Xbox and PS2, meaning that its gameplay was focused less on simulation and more on the action-filled flight combat favored by console players.

When the game appeared on the PC—where *Holland*'s name and reputation were ingrained with a hardcore fanbase—the reaction was less positive. “I was flummoxed at how the game turned out on Xbox and PS2,” recalls Holland, “but the one mistake we made was to think it would be appealing on the PC.” The computer-gaming audience expected deep simulation from the designer of so many classic games, and Holland concludes that the negativity toward the PC version hurt *Saints Row*'s overall success.

Peter Hirschmann, the LucasArts producer for the project, was proud of the "historical document" that was created by

The game is turned into a social being, sometimes
belonging to two different worlds, and sometimes
moving in the country, often in the country, often in the country.
California. They think it is a lot of fun, and they are
moving towards it, and they are moving towards it.
of the Japanese and the Japanese, and they are
all over, and they are all over, and they are all over.
Nobuyuki, plus the other, and they are all over.
it's pronounced slightly in some.

For statements in the past five to six years, the most common statement was that the respondent had not been involved in any sexual activity with anyone other than his or her spouse. The next most common statement was that the respondent had been involved in sexual activity with one or more other persons, but that the respondent was not currently involved in any sexual activity with anyone other than his or her spouse. The third most common statement was that the respondent had been involved in sexual activity with one or more other persons, and that the respondent was currently involved in sexual activity with one or more other persons. The fourth most common statement was that the respondent had been involved in sexual activity with one or more other persons, and that the respondent was currently involved in sexual activity with one or more other persons, but that the respondent was not currently involved in sexual activity with anyone other than his or her spouse. The fifth most common statement was that the respondent had been involved in sexual activity with one or more other persons, and that the respondent was currently involved in sexual activity with one or more other persons, but that the respondent was not currently involved in sexual activity with anyone other than his or her spouse.

Second, Vincent Lee, former head of the U.S. Coast Guard, says that the U.S. Coast Guard is not a law enforcement agency. He says that the U.S. Coast Guard is a law enforcement agency. He says that the U.S. Coast Guard is a law enforcement agency.





Above: LucasArts and developer Totally Games staff based their designs on real WWII planes.

craft, as well as footage of the Northwest Sinfonia orchestra performing the score. Giacchino would go on to write music for 2005's *Mercenaries*, *Playground of Destruction* and 2008's *Fracture*.

What Lucasfilm Games pioneered in the 1980s is now commonly known as "value-added content"—but back then it was a unique selling point. For Hirschmann, the *Secret Weapons* bonus material was a labor of love, and an attempt to recapture a little of what made Lucas products truly stand out in earlier years. "As a fan, I always appreciated the effort that went into material beyond the software itself. For goodness' sake, the *manual* for the original *Secret Weapons of the Luftwaffe* still has a place on my bookshelf as a reference guide. With *SWON*, it was an attempt to get back to those glory days, albeit approaching it from a digital standpoint."

Also released the same year was a quirky, cartoony action-adventure that demonstrated much of the verve, style, and comedic attitude that lay at the heart of those legendary adventure games. *Armed and Dangerous* (2003) was initially pitched to LucasArts as an opportunity to resurrect some of

the spirit and hilarity of its golden-age adventure genre, this time in an all-action wrapper.

Rather than target the more obscure adventure or in-jokes, the *Armed and Dangerous* design team at developer Planet Moon Studios took aim at the far more well-known *Star Wars* canon. Amidst Lucasfilm's creative director, recalls the game's indie developer, Daniel O'Farrell, introducing it to LucasArts at a company meeting with a cutscene that depicted the moment in *The Empire Strikes Back* where the Millennium Falcon is cut open. In the schematic, a freezing chamber is blown where the sun don't shine, and O'Farrell found just how the audience, waiting for the reaction: "It was pure pandemonium! They loved it!" Mike Laid.

With the style and comedy bar set, *Armed and Dangerous* went on to deliver a kind of great game that was very many gaming conventions. Despite its reputation as a comedy, however, its action gameplay didn't leave the developers and the publisher had no doubts. The golden age was proving to be a hard act to follow.



This page: The production of *Secret Weapons Over Normandy* involved flying in some of the historical aircraft, a soundtrack composed by award-winning composer Michael Giacchino, and gathering detailed information on flight mechanics and dogfighting from Air Force veterans.



Above: The comical cast of characters in Planet Moon's *Armed and Dangerous* (2003) includes, from left, a member of the Shrub Patrol, Lilly, Jersey, Raxus Q, Roman, Henry, another member of the Shrub Patrol, and the Lady of the Lake.



Above: LEGO *Star Wars* became a bona fide game phenomenon, ultimately spawning sequels that covered the classic trilogy in LEGO *Star Wars II* and the whole *Star Wars* saga in LEGO *Star Wars: The Complete Saga*.

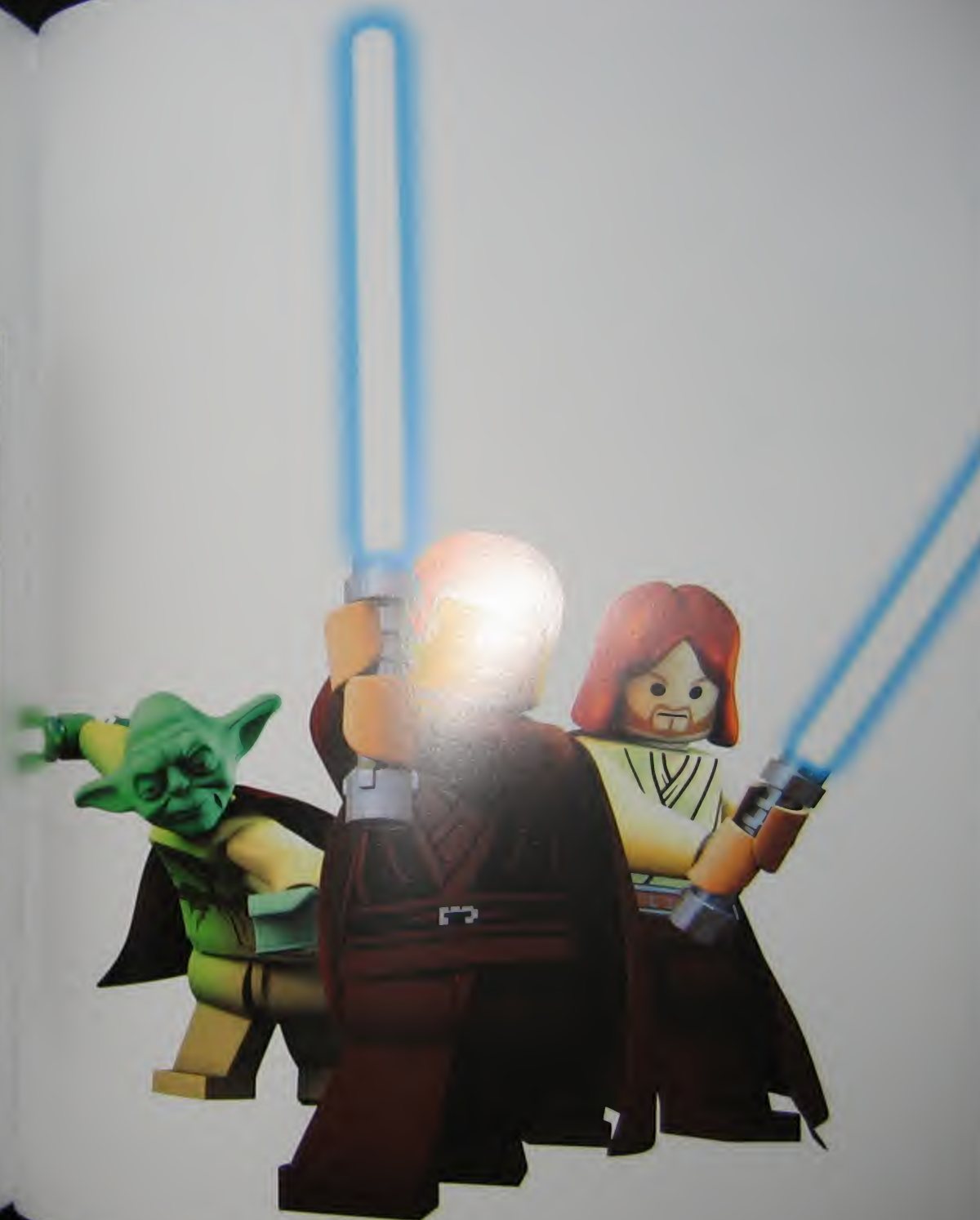
Right: The iconic *Star Wars* movie poster with its LEGO counterparts and a screenshot depicting Luke's battle from *Return of the Jedi*.

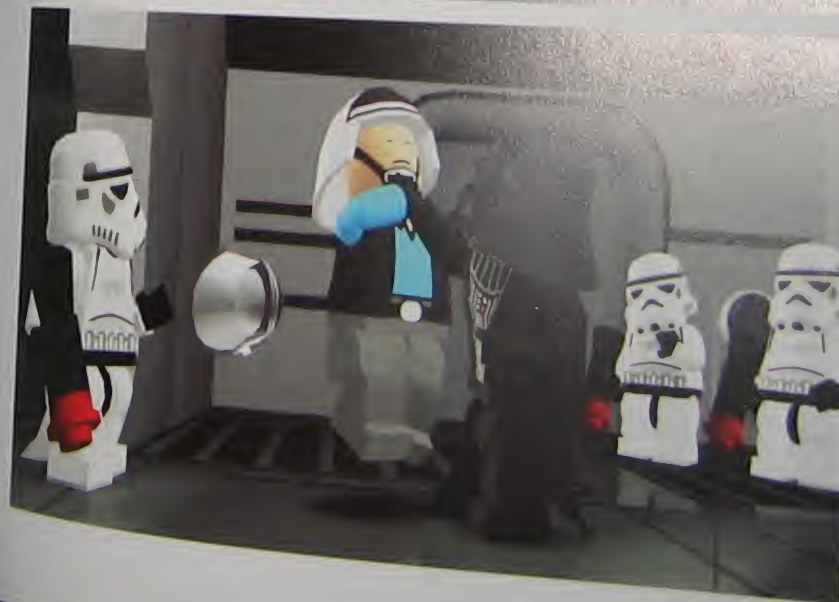
Opposite and pages 194–195: How could any gamer resist the opportunity to play all the great *Star Wars* movie moments with expertly stylized LEGO characters?

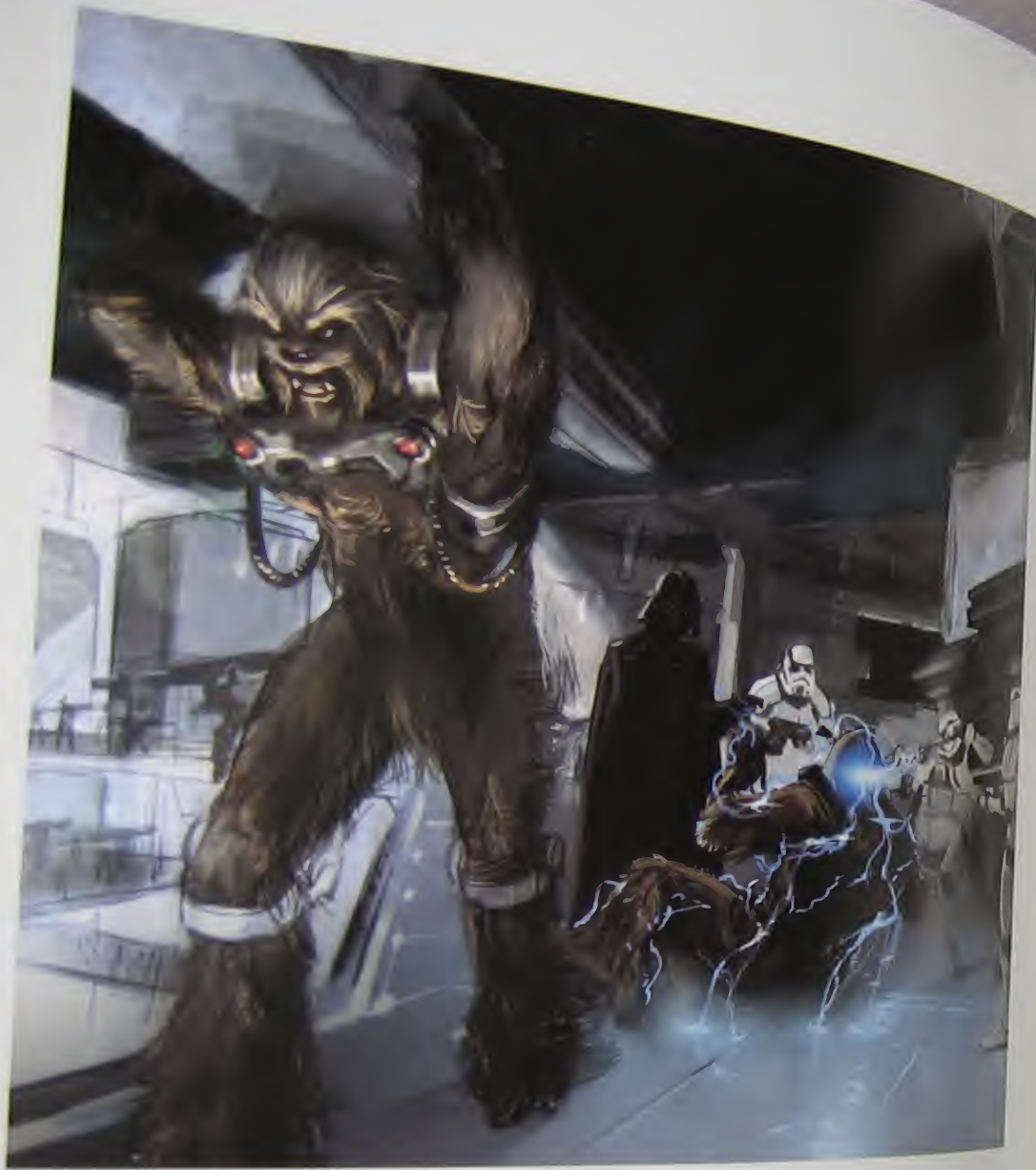
JUST ADD LEGO

It seemed like such a simple, kid-friendly idea: Tell the *Star Wars* story through the blocky filter of LEGO characters. The cute look of its *Star Wars* toys had contributed to fantastic sales at retail; presumably, its design application to a third-person action-adventure game featuring the Prequel Trilogy would appeal to the younger *Star Wars* audience.

LEGO *Star Wars* (2004) was developed by Traveller's Tales, a company that made family-style games, and was published by Eidos under license from LEGO and LucasArts. The game was a massive success; in 2006, with the release of the now LucasArts-published LEGO *Star Wars II: The Original Trilogy*, a bona fide game-industry phenomenon was born. Even with its cutesy LEGO visuals, the gameplay and style spoke perfectly to all ages. Parents had a game they could play with their children—one that told stories they loved and still provided a sublimely balanced gaming challenge. It was a near-perfect blend of two powerful brands with classic gameplay execution by the development team. That it proved so readily appealing to hardcore gamers and first-time gamers alike was a tremendous testimony to the collaboration of brand and design that LucasArts 2.0 would aim to deliver going forward.







Rebel Warrior

The notion of playing as a powerful Wookiee, delivering payback against the invading Imperial forces on their home planet of Kashyyyk, has often emerged when new internal game concepts are considered. In fact, playing as a Wookiee was initially pitched as Rebel Warrior to George Lucas for the game that would ultimately become *Star Wars*.

The Force Unleashed (2008): Lucas shot down the notion of a Wookiee lead character on the grounds that his communication method of wailing grunts and barks didn't lend itself to character development and expression.





Above and right: Artist Greg Knight's concept paintings and sketches for a Wookiee-led assault on Imperial positions, and of breaking the shackles of confinement and slavery, are powerful in their own right, March 2005.



Left: Posing, sketching, painting a vision of the assault, by Greg Knight, March 2005.



Mercenaries

Developer Pandemic Studios had been working on a remake of action game Desert Strike for the latest generation of consoles, to be published by Electronic Arts. That game was ultimately cancelled, but Pandemic turned its attention to a new project called Mercenaries (2005). This open-world third-person action game cast you as a modern bounty hunter operating in global hotspots.

The studio discussed a publishing deal with LucasArts, whose executives Pandemic president Josh Resnick says

"immediately understood the vision behind Mercenaries." LucasArts picked up the publishing rights in late 2004, and the game shipped in 2005 with an impressive marketing campaign that blasted the action game into the top 10 with a tagline—"Playground of Destruction"—coined by Jim Ward. Critically lauded by the entertainment press, Mercenaries also became the 15th best-selling game of the year, and, significantly, the first 1-million copies seller.



Above: Box art for Mercenaries' Playground of Destruction (2005)

Top: Character concept art for Pandemic's Mercenaries, by unknown artist

Bottom: Vehicle concept sketches for Pandemic's Mercenaries



Thrillville

This simulation and strategy game, developed by Frontier Developments, placed the player in charge of an amusement park. The game was well received in 2006 and led to Thrillville: Off the Rails in 2007.



Knights of the Old Republic 3



Upon the cancellation of the Proteus project, team and elements of the designs were applied to Star Wars: Knights of the Old Republic 3, which, according to designer John Stafford, "got quite a bit of traction... we wrote a story, designed most of the environments/worlds, and many of the quests, characters, and items." However, this new game direction fell victim to LucasArts hitting possibly the most difficult period in the company's history.



Left: Concept painting of Talosian, by Molly Denmark
 Below, left: Concept art of Mandalore City layout, by Denmark
 Below, right: Environment painting with map, by Denmark
 Bottom: Painting of Rodia crash site, by Denmark

| | |
|---------------|----------------------------------|
| Title/Job | Star Wars Battlefront |
| Description | Boz Poy Head Statue |
| Version/Sheet | 1 |
| Date | 21/11/07 |
| FAO | Jason Kangley / Ben Knapton |
| | James South Mike Borne Tim Jones |

3 faced skull



| | |
|---------------|----------------------------------|
| Title/Job | Star Wars Battlefront |
| Description | Boz Poy Alien Skeleton |
| Version/Sheet | 1 |
| Date | 21/11/07 |
| FAO | Jason Kangley / Ben Knapton |
| | James South Mike Borne Tim Jones |



Star Wars: Battlefront Renegade Squadron

Star Wars: Battlefront Renegade Squadron (2007) set PSP gamers abuzz with the sheer volume of content packed into the game. The multiplayer gameplay was a huge hit for a handheld game, as the famous battles from the movies were replicated on a portable small screen. The planet of Boz Poy was referenced in Star Wars: Episode III Revenge of

the Sith but never seen. Used as one of the battlegrounds for Star Wars: Battlefront Renegade Squadron, the Graveyard World, as it is known, required the design of headstones, along with the skeletal remains of those who fell in battle there.

Above and left: Star Wars: Battlefront Renegade Squadron (2007) introduced large-scale virtual-based multiplayer battles to the PSP gaming console, with campaigns introduced via Battlefront Battle of the planet Boz Poy. The planet and its special features were used in special limited editions.

Opposite: Campaign launch of Battlefront on the PSP game Star Wars: Battlefront Renegade Squadron. November 21, 2007.



CHAPTER EIGHT

THE NEXT GENERATION

2008 ONWARD

From past successes and lessons learned, from gambles made and lost, LucasArts looked to build on its storied legacy in a world where videogames were now a mainstream form of entertainment. The new direction of quantifiable growth from the company reboot was now entrenched as policy.

Top to bottom — from technology and design to marketing and distribution — the company strove to develop a balanced portfolio that would embrace the best of its blockbuster movie tie-ins alongside original new intellectual properties (IPs). And those original titles had to be special.

When *Fracture* (2008) was signed, it had already beaten out several prospective game pitches that had been conceptualized but discarded.

Produced by external developer Day 1 Studios, *Fracture* made the final cut to print because of its unique gameplay mechanics that involved hand earth-shattering technology in the form of a terrain deformation, according to Jim Ward, co-creator of the game. "Changing the game play with this shooter," Ward of *Fracture*'s technology Day 1 Studios designed *Fracture* to have maps that were fluid, so that players could deform and reshape the environment with explosive devices to create hills and valleys.

LucasArts was also continuing its partnership with LEGO, naming its first game company's other valuable franchise, *LEGO Star Wars: The Force Awakens*. Ward acknowledged that the next generation of games had been woefully underrepresented in the past.



Top: Box cover for LEGO Indiana Jones: The Original Adventures (2008).

Above: Box cover art for Fracture (2006).

Page 207 (top and bottom): Concept art of a battle in Washington, D.C., from Fracture, circa 2006 (artist unknown).

Top, opposite, and pages 210-211: The way art, varied locations, and dazzling stunts of the Indiana Jones movies lent themselves perfectly to the spirit of LEGO Indiana Jones: The Original Adventures developed here in concept paintings (artists unknown).



For several years, Lucasfilm had kept its attention on "finding the right game genre." The firm's CEO wanted a timeless story with a timeless toy universe, one that fit perfectly with LEGO. *Star Wars* that was an application to this legendary adventure series was an easy decision. The action in LEGO Indiana Jones: The Original Adventures (2008) is brash, funny, and occurs in fascinating locations around the globe.

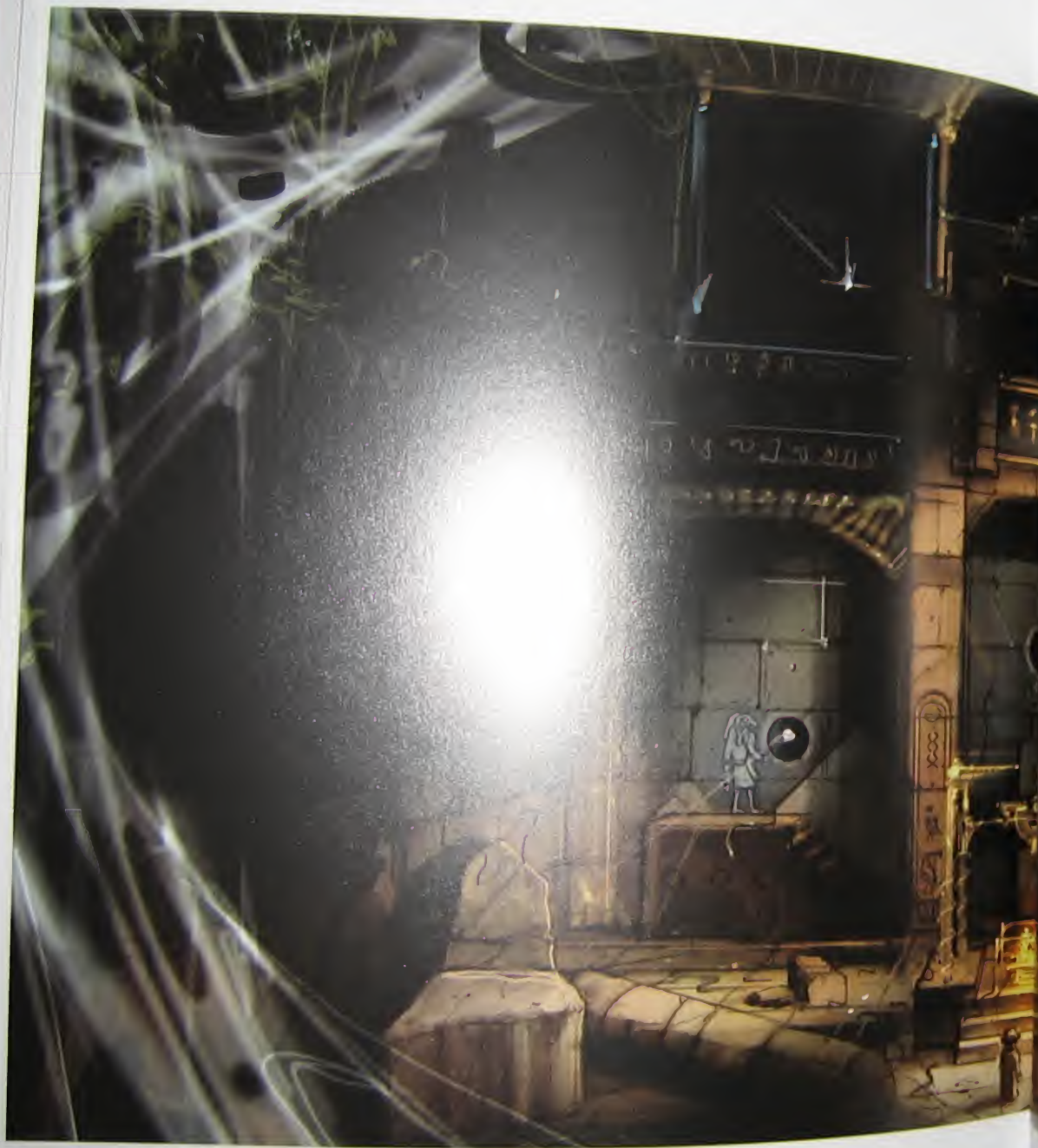
EPISODE III.5

Ward's stated intention was to have as many internally developed games in production as games crafted at external studios, and those internal games were entrusted with Lucasfilm's key properties: *Star Wars* and *Indiana Jones*. The publisher had developed and licensed new technology to better immerse the

gamer in the story, and it was being used to shed light on the backstory of the classic characters from the big screen. As the first game to emerge after the bloated *Star Wars: The Force Unleashed* (2008) was using this newly created technology to further the movie's storyline. Whereas Lucasfilm had once propelled the *Star Wars* franchise forward through its massive movie releases, LucasArts now assumed that critical role in a new medium, developing key elements between Episodes III and IV that shed light on the entire *Star Wars* saga.

(Continued on page 214)







Best Tech Practices

To power LucasArts' lofty ambitions, new technology had to generate the kind of experiences that most consumers on platforms offered and fans expected. Two key reasons why externally developed technology were chosen to help the game designers deliver their ambitious visions.

Technology developer NaturalMotion's euphoria engine, a biomechanical artificial intelligence simulator, promised to apply behavior to a character based on its environmental situation. If an enemy is punched off a balcony, will he try to grab onto a ledge, reach for a beam, or plummet to the ground? Instead of creating numerous animations to cover all possible outcomes, the euphoria engine simulates the possible behavior and streamlines the outcome.

George Lucas, of course, had to sign off on LucasArts' intended investment in the internal technology infrastructure. The planned relationship with NaturalMotion would go beyond a regular licensing agreement, ensuring that the technology was intimately integrated across the new internal organization of development teams. A relatively simple demo test was created to illustrate that flexibility. Vice president

of product development Hirschmann recalls a scene in the demo where a bad guy is hit and rolls down the stairs, while Indiana Jones leaps onto a chandelier to avoid the explosion of gunpowder barrels that are helping dispatch his enemies. To prove the game-agnostic nature of the technology, a stormtrooper was dropped into Marion's bar from the Indiana Jones movies and reacted realistically to the scene using his blaster, dodging, and seeking cover. Once the euphoria engine showed its versatility in handling the various games in the LucasArts' stable—and its ability to make an impressive impact on visual effects and gameplay—Lucas signed off on the pact and the companies forged a deal to bring NaturalMotion's technology to future games.

The other major piece of technology that was licensed to bring fidelity to the gameworld came from a group called Pixelux. This team produced what they called a "digital molecular matter system"—essentially an engine that represents materials with remarkable realism, enabling them to act and react like their real-world counterparts. "Pixelux is nothing short of simulating the actual elements

After seeing a demo of the technology in action, LucasArts signed a deal with the Pixelux team and gave them their own space within the LucasArts facility so they could work closely with the game-design teams.



Opposite, left, and above: The philosophy of visuals augmenting story begins with concept art (opposite and left, by Amy Barth Christensen, circa 2005), used to communicate a game's spirit. Technology brings this vision to life as seen in the above screenshots from *Star Wars: The Force Unleashed* (2008).

Tech for Success

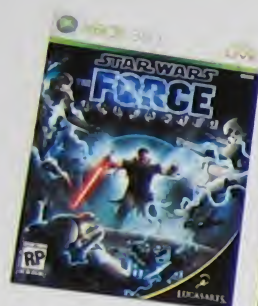
The commercial success of *Battlefront* (2004) gave LucasArts the opportunity to begin serious investment in its technology base. A guiding George Lucas mission, however, was that a visual effect by itself is boring, while a visual effect in the service of a story is something special. For LucasArts, this philosophy meant a concurrent commitment to creating next-generation game engines and pipelines, including technologies that would deliver the visual effects, and to creating stories that would give them impact. Technology wouldn't be invented just for the sake of having it.

Out of the reboot emerged the Ronin group (so named for the masterless samurai of Japanese feudal lore), which would essentially act as the Research and Development arm of the games division. Their ideas would generate the game features and functions of the true next generation.

Arts Center in San Francisco's Presidio. Whereas before the two internal companies were separated by a short but significant 10-minute drive, they would now share the same buildings—and, more important, similar digital pipelines.

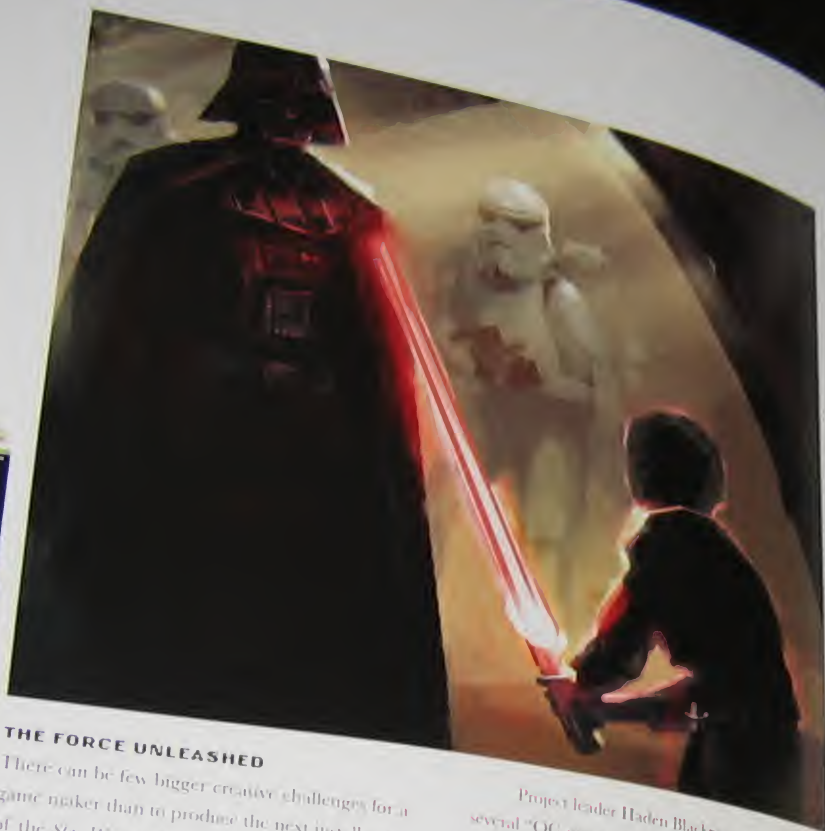
As a result of this closer relationship, games-group engineers meet with technicians from ILM every week. Though it seems natural for LucasArts to leverage the innovation of its sister company, the video world and the videogame world were for a long time considered non-compatible. "It's incredibly hard because the visual effects in games and movies are so different," explains Hirschmann. "Though they're both working in the visual arts, they work in different mediums."

In a business world dominated by convergence—where companies and technologies find synergies to help build better products—LucasArts also profited from those economics in its internal relationship. Of course, while business factors are at the heart of most decisions, the actual application has a more human flavor, Hirschmann concludes that "it's all about people rolling up their sleeves, taking initiative, and making the magic happen."



Above: Box art for the Xbox 360 version of *Star Wars: The Force Unleashed* (2008).

Right: Concept art for *Star Wars: The Force Unleashed* showing Vader facing someone who should become his secret apprentice, by Amy Beth Christensen, circa 2005.



THE FORCE UNLEASHED

There can be few bigger creative challenges for a game maker than to produce the next installment of the *Star Wars* saga. That, coupled with using the new NaturalMotion and Pixelux engines (see Best Tech Practices, page 212), created an ebb and flow of morale during the production of *The Force Unleashed*; due to the enormity of the task, Hirschmann described the process as, at times, "exhausting." "There's little room for error," Hirschmann said during development. Getting the tools and pipeline in place proved to be incredibly challenging. Yet getting the process right was a priority for the future. "Making a shared-tech effort is absolutely a goal we all believe in."

Project leader Haden Blackman went through several "OG meetings"—a.k.a. Operation George, where the team meets with George Lucas. "The period between Episodes III and IV is very fertile," says Blackman, "but we got direction from George that if this is the next chapter, it needs to be about Vader." That alone sent the team back to the drawing board, after some thirty different concepts had seen them toy with a smuggler character, a Darth Maul game, and, particularly, a Wookiee game (see sidebar, page 196).

Eventually, the shift toward Darth Vader led to a plot involving a secret apprentice, and Lucas signed off on that player-character. He also wanted to ensure that gamers played and witnessed human interaction,



Left: A final illustration, why not, when Skywalker's Force powers make this 30-game opponent seem to be equally skilled, mental and snail. Amy Beth Christensen's sketch did some of the heavy lifting, including the lightsaber, for *Star Wars: The Force Unleashed* (2008).



"Going in, I was scared because we were re-defining the Force. But then I was more scared when George said to go do it."

—Haden Blackman, project leader



which led to the introduction of a sidekick character who could offer some comic relief, along with a love interest. Each of these characters would provide different responses to the apprentice, a fundamentally dark figure. In early designs, Leia had a big role as someone the apprentice had to protect, but the team later decided to use a new character instead because "given the timeline, gamers would know with whom Leia ends up, thus removing possible plot tension."

From a gameplay standpoint, Blackman wanted the Force powers to be over-the-top. When he showed Lucas a preview where a character throws stormtroopers into the fighters, he was instructed to

"go do that game." "Going in, I was scared because we were re-defining the Force," says Blackman. "But then I was more scared when George said to go do it."

Realizing the studio couldn't staff two full projects, the company made an internal adjustment, reassigning resources from the *Indiana Jones* project also in development. "*Star Wars* went from being the scrappy underdog—always having to fight for any person, any resource—to getting it all, and a lot of people from the *Indy* team had to stop work on that game to help out on *Star Wars*," says Hirschmann.

The result showed in the first Force Unleashed gameplay trailer, which was screened for the enthusiast

(continued on page 226)

Left: Concept paintings of Jedi characters, by Greg Knight, circa 2005

Opposite: Concept painting by Knight of a scene in *Star Wars: The Force Unleashed* (2008)

Pages 218–219: Concept painting of a damaged Vader, by Stephen Chang

the
gun





Top: Artist Greg Knigh's early storyboards show Force powers in an action scene for *Star Wars: The Force Unleashed*, circa 2005.

Right: George Lucas encouraged the team to create new characters to be stars of the new game stories, rather than relying on the famous names of the classic *Star Wars* canon. Ued, general painting by Amy Beth Christensen, circa 2005.

Opposite: Concept painting of the lead character using his Force powers in battle, by Christensen, circa 2005.

press and released online... The scale of the action... *Star Wars* adventure... Furthermore, its... fundamental game-play... wanted to ensure that... the world as it's presented... decisions on directions... and methods of interacting.

Lucas signed off on a three-pronged production strategy that would simulate both the environmental world and the physical interaction of objects, while also advancing the story narrative, in one seamless experience. "George is very savvy about gameplay mechanics," explains Blackman. "He understands that different mediums need to take *Star Wars* in slightly different directions."



"As a lifelong *Indy* fanboy, it's about as nerve-wracking as it gets to go in front of George and present a story."

—Peter Hirschmann, vice president of product development

LONG LIVE INDY

Before Lucasfilm began work on the massively anticipated new movie *Indiana Jones and the Kingdom of the Crystal Skull*, LucasArts had already decided to reinvigorate the character by bringing Indy to a new generation of gamers in an original adventure. Set in time slightly after *The Last Crusade*, this *Indy* game was written under the direction of George Lucas to expand upon the classic adventures without breaching on territory that a fourth movie may cover. LucasArts was well into pre-production when the studio got the green light the game for full production. The game was to come from the key stakeholders: George Lucas and Steven Spielberg.

It was clearly time for a new *Indy* game, a process Hirschmann describes as "a little bit of a

wracking." The team had no choice but to be totally prepared for every eventuality, every question, due to the premium placed on Lucas' time. "As a lifelong *Indy* fanboy," says Hirschmann, "it's about as nerve-wracking as it gets to go in front of George and present a story." With the new movie's scenario still in progress and a secret, even sharing an outline of it with the game makers was impossible. According to Hirschmann, however, Lucas led the team away from certain situations and characters that were potentially a part of the movie plot, instead guiding them toward paths that would embellish aspects of the screen ones.

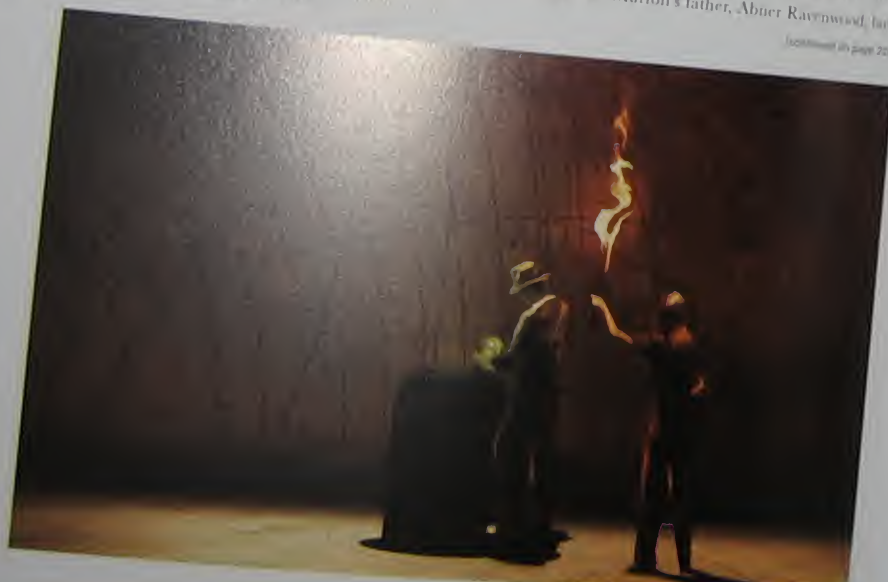
The first version of the game tale involved Marion Ravenwood, but the team was steered away from including her. Hirschmann's crew wanted to bring back Marion's father, Abner Ravenwood, but

(continued on page 228)

Bottom: Concept painting of the untitled *Indiana Jones* game (2009) for the long-awaited return of everyone's favorite archaeology professor, by Chris Voy.

Opposite: Concept painting for the *Indiana Jones* game, by Molly Deimert, circa 2005.

Pages 224–225: Environment sketch, by Mark Lee, circa 2006.

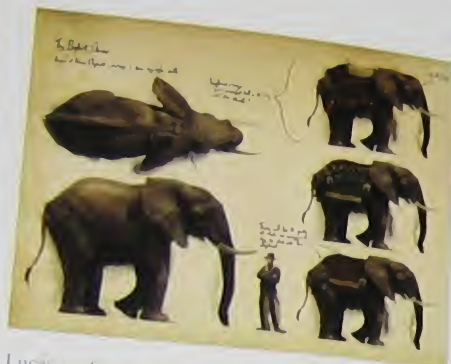


INDIANA JONES
Hirschmann



Right: Concept sketches for elephants and locations in the *Indiana Jones* game (artists unknown)

Opposite: Games designed alongside their movie migrations provide backstory and side details to the main plot delivered on the big screen, as seen here in concept paintings for the untitled *Indiana Jones* game, by Chris Voy (top), Molly Denmark (middle) and Mike Lee (bottom).



Lucas confirmed that he was officially dead and that the game couldn't go against continuity established in the film universe. But Lucas did give the designers latitude to create a few new characters to play significant roles. A game location that was already being used in the movie necessitated another change.

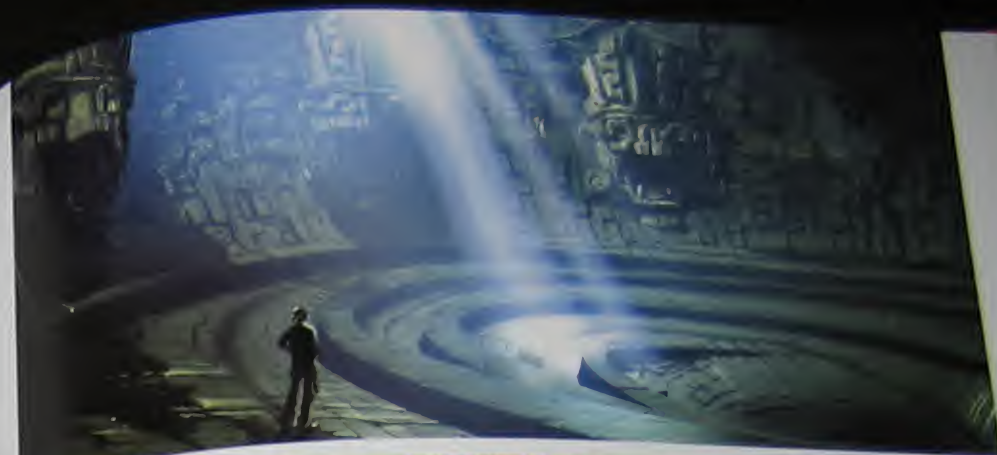
One critical factor that needed sign-off from Lucas and Spielberg was the "Mac Guffin"—usually an object unimportant in itself but which drives the plot à la the Ark of the Covenant in *Raiders of the Lost Ark*. The final choice passed muster at the top level, and also tested well with focus groups.

Lucas agreed that the story could take place in 1939, which Hirschmann describes as "the biggest creative decision that [George Lucas] has made for us" because it helped shape the style of bad guys, as well as game functionality and features. But Lucas wasn't the only hand helping to guide the game's direction. Hirschmann, a former assistant at Spielberg's production house Amblin Entertainment, also had to pitch the idea to his former boss. By the time the game was in preproduction, Spielberg was already in



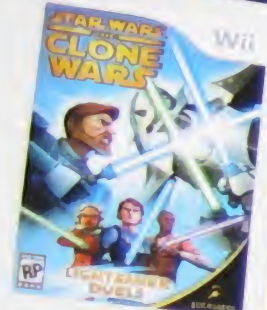
full *Indiana Jones* mode, ready to oversee the story, the art style, the technology, and the game-design work. "We had to be prepared," recalls Hirschmann, "because his time is so valuable." During the meeting, the director provided feedback on details ranging from how Indy looked to how the game mechanics worked, and even on how homages to the first three movies could be incorporated into the story.

(continued on page 242)



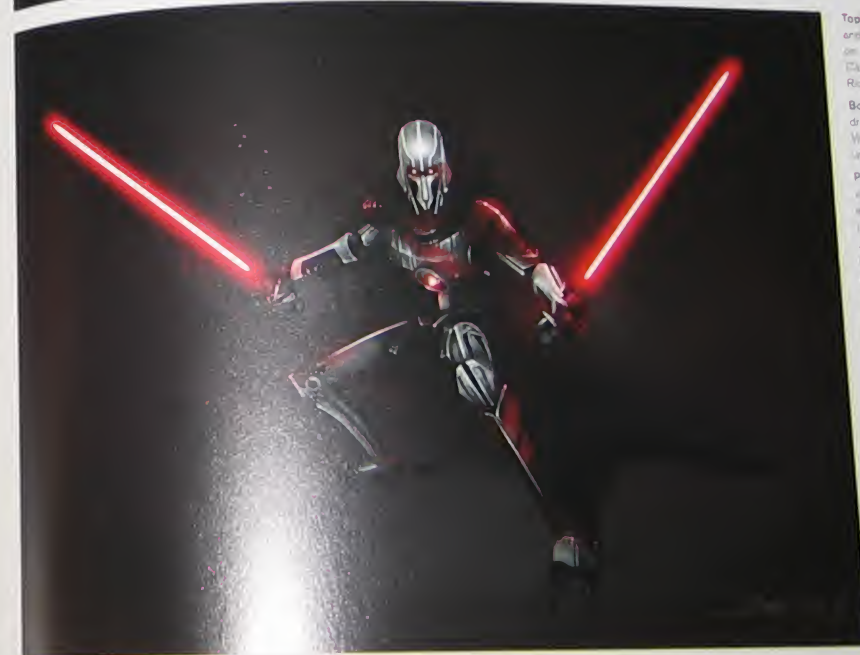
Star Wars: The Clone Wars—Jedi Alliance and Star Wars: The Clone Wars— Lightsaber Duels

In concert with the animated TV series currently in production (debuting in October 2008), LucasArts is also working with its Singapore-based facility to bring Star Wars: The Clone Wars to games. Lucas Licensing, following Lucasfilm's mandate, plans for that new franchise extension to be supported by videogames, action figures, books, and comic books, to ensure the widest possible reach. A whole collection of new creatures needed to be designed for the Clone Wars project, and produced in a style that matches the animated series, new, distinctive look.



Above: Box covers for Star Wars: The Clone Wars—Jedi Alliance (2008) and Star Wars: The Clone Wars—Lightsaber Duels (2008). Jedi Alliance was developed at the Lucasfilm Singapore office, while Lightsaber Duels was developed by Koten Studios.

Right: Concept painting of a Jedi looking at an attacking mechanical droid for Star Wars: The Clone Wars—Jedi Alliance. By Chong Khee Ooi, circa 2007.



Top: Concept painting of C-3PO and R2-D2 at a droid workshop, as Coruscant for Star Wars: The Clone Wars—Jedi Alliance. By Richard Linn, circa 2007.

Bottom: Concept art of a Jedi droid for Star Wars: The Clone Wars—Lightsaber Duels. Artist unknown, circa 2007.

Pages 230–231: The Clone Wars story will opening opportunities to explore new locations, including underwater planets, where the Jedi get to demonstrate their swimming skills, shown in this concept painting for Star Wars: The Clone Wars—Jedi Alliance, by Chong Khee Ooi, circa 2007.

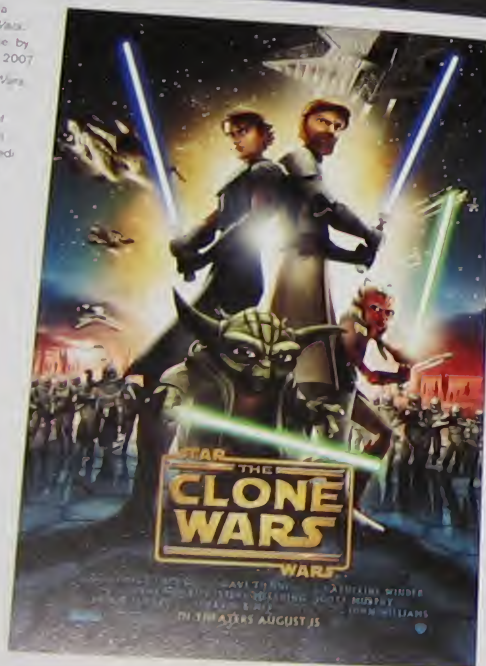




Above: Concept painting of a super buzz droid from *Star Wars: The Clone Wars—Jedi Alliance*, by Greg Kuhl, March 8, 2007.

Right: Movie poster for *Star Wars: The Clone Wars* (2008).

Far right: Concept paintings of Nightwater boss character from *Star Wars: The Clone Wars—Jedi Alliance*, by Richard Lim, circa 2007.



TWENTY-FIVE YEARS YOUNG

Along with elevating the gaming experience through technology and crafting newly effective pipelines within its own broader organization, LucasArts placed a renewed emphasis on expanding its games' appeal beyond the core videogaming audience. For many games-industry decision-makers, building a product pleasing to a mainstream audience has involved limiting its scope and ambition, but LucasArts believes that making games more accessible does not mean "dumbing them down," it means making them smarter. Indeed, crafting videogames that were "dumber" had spelled doom for many movie companies that had leaned too heavily on a film license without regard for what gamers would want.

While some of these projects don't necessarily lose money, the failure to produce a compelling title can tarnish the very intellectual property that the game is trying to support.

The continued convergence of videogames and the broader entertainment industry made Darrell Rodriguez a natural fit to lead LucasArts after Jim Ward left the company in early 2008. Prior to being named LucasArts president in April 2008, Rodriguez served as chief operating officer at Electronic Arts LA, and he also worked at another legendary entertainment company, Walt Disney Imagineering. His blend of production, operational, and creative expertise will be a key factor in moving LucasArts forward into the next evolution of gaming.

Above: LucasArts is housed at the Letterman Digital Arts Center in San Francisco's Presidio, where TUM and Usatam are also located. The center is known for its recently renovated film and television technologies to create immersive entertainment for the future.

"LucasArts is in a unique position to attract the best creative talent, which can play a profound role in creating new properties and re-defining interactive games for the future."

—Darrell Rodriguez, president of LucasArts

From Ballblazer and Rescue on Fractalus! to LEGO Star Wars and Star Wars: The Force Unleashed — via original titles such as Monkey Island and so many more — under the guise of Lucasfilm Games and LucasArts Entertainment Company — from the transition of a total company reboot — LucasArts has delivered 25 years of spectacular game experiences. While consoles arrived amid thunderous hype and disappeared to be replaced by the next great innovation, and as upgraded PCs emerged with power sufficient to control a Death Star, the games of LucasArts have tested trigger fingers and strategic acumen, tickled funny bones and wowed the senses.

Of the thousands of companies that have tackled the constantly changing videogame industry, few have displayed such stamina. Fewer still can point to a portfolio of products that have inspired gamers of all ages and interests to offer their thanks. While staying relatively small, being out of the limelight, and remaining economically powerful, LucasArts has grown and shrunk, produced strong titles, imitations and derivative duds, and made millions again millions. But at the heart of the company has always been an unerring conviction: that gamers of all ages will want to play, to share with friends. Millions of people have spent untold hours of interactive entertainment because of that dedication.

Looking toward the future, LucasArts has made it clear to the company that they like to see at least half of their products

Team 3

Star Wars and Indiana Jones offer rich universes for game developers to explore, but now intellectual property has always been a part of LucasArts' DNA. So when George Lucas signed off on an original project from the internally named group "Team 3" it was a big deal for the entire organization.

To kick-start the project and spark the team's creative juices, a workshop at Skywalker Ranch involved writers from the hit TV shows *Heroes* and *Lost*, plus other folks who helped brainstorm concepts for this new franchise. Attracting this level of writing talent would ordinarily be hard in the gaming world, but the mandate from Lucas to make this project everything it can be—along with Lucas' recommendation—helped secure some of the best writers in the business. What they eventually create could be the future of gaming.

experiences that aren't related to *Star Wars* or *Indiana Jones*. Rodriguez, for one, relishes the opportunity. "LucasArts is in a unique position to attract the best creative talent, which can play a profound role in creating new properties and re-defining interactive games for the future." With George Lucas and his companies serving as the launching pad for incredible interactive experiences, where imagination can be projected to gamers using some of the most cutting-edge technology at work in the games industry today, the possibilities are out there — way, way out there, in galaxies far, far away.

Opposite: A pencil sketch of classic characters who have appeared in LucasArts games during the last quarter-century.



Timeline



1982 & 1983

Lucasfilm Games Group Formed

Peter Langston is hired to head the group within the Computer Division with a mandate to find high-tech approaches to the entertainment industry (that wasn't games). The small team moves to Kerner Blvd in San Rafael, Calif.

1984

First Games Released

Ballblazer and Rescue on Fractalus, designed by David Levine and David Fox, receive critical success after extensive playtests on their native Atari 800 platform. Now at five people (Langston, Gary Winnick, David Fox, Charlie Kellner, and David Levine), the Lucasfilm Games division becomes an independent business entity within Lucasfilm. Steve Arnold takes over leadership from Langston.

Ballblazer

(Atari 800)

Programmers: David Levine, Gary Hall; Peter Langston, David Rieder

Rescue on Fractalus!

(Atari 800)

Designers: David Fox, Loren Carpenter; Peter Langston
Programmers: Loren Carpenter, David Fox, Peter Langston
Charlie Kellner
Director: David Fox

1985

The Second Wave

Early Lucasfilm Games employees Noah Falstein and Charlie Kellner design the next two games to use the fractal technology for release through new distribution, Lpixx. The group moves to the "Z" building in San Rafael and triples in size. It restructures to become a project-oriented group, and becomes profitable.

The Eidolon

(Atari 800, Commodore 64)

Project Leader: Charlie Kellner

Koronis Rift

(Atari 800, Commodore 64)

Project Leader: Noah Falstein

1986

Movies and Simulations

The Jim Henson movie becomes a game for PC through Lucasfilm Games, and the fledgling developer makes a move into the growing simulation market. Work begins with Quantum Leap, an offshoot of the original Quantum Leap series. The Games Division moves to the Stable House at Skywalker Ranch.

Quantum Leap, The Computer Game

(IBM PC, Amiga, Atari ST)

Project Leader: David Fox

Maniac Mansion

(IBM PC, Amiga, Atari ST)

Commodore 64, Apple II

Creators: Ron Gilbert, Gary Winnick

Programmers: Ron Gilbert, David Fox

Strike Fleet

(IBM PC, Commodore 64, Apple II)

Principal Designer & Project Leader

Noah Falstein

1987

SCUMM Is Born

Newcomer Ron Gilbert's first adventure game is powered by the perfect acronym: Script Creation Utility for Maniac Mansion. Sinking Fleet, the sequel of sorts to PMM, begins to build more awareness in the simulation market. Maniac Mansion goes on to win many "Game of the Year" awards from the electronic entertainment press, including Computer Entertainment, Happy Computer, and COMPLETE.

Maniac Mansion

(IBM PC, Amiga, Atari ST)

Commodore 64, Apple II

Creators: Ron Gilbert, Gary Winnick

Programmers: Ron Gilbert, David Fox

Strike Fleet

(IBM PC, Commodore 64, Apple II)

Principal Designer & Project Leader

Noah Falstein



1989

The Movie Game

For the first time, a Lucasfilm movie is brought to the small screen. The entrance into the simulation market pays dividends as a strong reputation develops. Electronic Arts is selected as the new distribution partner for Lucasfilm Games products.

Indiana Jones and the Last Crusade: The Action Game

(IBM PC, Amiga, Atari ST, Mac)

Programmer: Mark Hugh Hutchinson

Indiana Jones and the Temple of Doom: The Graphic Adventure

(IBM PC)

Designers: Noah Falstein, David Fox, Ron Gilbert

Pipe Dream

(IBM PC, Amiga, Atari ST, Mac)

Designers: Akira Redner, Stephan L. Butler

The Finest Hour: The Battle of Britain

(IBM PC, Amiga, Atari ST)

Project Leader: Larry Holland

1990

A Classic Adventure

As the craft of creating unique adventure games is honed to perfection, an instant classic is released in The Secret of Monkey Island. Loom also hits retail shelves as the first of a potential trilogy. Lucasfilm Games becomes a division under LucasArts Entertainment Company. The Games Division moves back to Kerner Blvd. in San Rafael. Maniac Mansion expands into television as Lucasfilm Games partners with Atlantis Films and The Family Channel on an adaptation.

Loom

(IBM PC, Amiga, Atari ST, Mac)

Project Leader: Jennifer Sward

Lead Designer: Brian Moriarty

Night Shift

(IBM PC, Amiga, Atari ST, Mac)

Designers: Chris Gibbs, Jon Steele, Robert Gil, Jon Dean, Akira Redner

The Secret of Monkey Island

(IBM PC, Amiga, Atari ST, Mac)

Designer: Ron Gilbert

Programmers: Ron Gilbert, David Grossman, Tim Schafer

1991

Enter the Console

The SCUMM engine allows for a sequel to The Secret of Monkey Island to arrive on shelves just a year after the original. Australian developer Beam Software is tasked with bringing Star Wars to Nintendo's home console. Steve Arnold becomes VP of the newly formed New Media Group, and former marketing director Doug Glen becomes general manager of Lucasfilm Games.

Monkey Island 2: LeChuck's Revenge

(IBM PC, Amiga, Atari ST, Mac)

Designer: Ron Gilbert

Programmers: Tim Schafer, Tami Caryl Borowick, David Grossman

Bret Barrett, Ron Gilbert

Secret Weapons of the Luftwaffe

(IBM PC)

Project Leader: Larry Holland

Star Wars

(NES)

Beam Software

Producer: Akira Redner

1992

Tapping the Movies

Expanding the games reach to the console—now including the Super Nintendo—involves tapping into the original trilogy movies. Hal Barwood and Noah Falstein write a brand-new Indiana Jones story. Kelly Flock becomes general manager. Super Star Wars earns a perfect score from GamePro.

Defenders of Dynatron City

(NES)

Designer: Gary Winnick

The Empire Strikes Back

(NES)

Sculptured Software

Designers: Mark Eberl and Kalini Strecher

Indiana Jones and the Fate of Atlantis

(IBM PC, Amiga, Atari ST, Mac)

Project Leader: Hal Barwood

Designers: Hal Barwood, Noah Falstein

Indiana Jones and The Temple of Doom: The Graphic Adventure

(IBM PC, Amiga, Atari ST, Mac)

Attention to Detail Limited

Writer: Hal Barwood

Super Star Wars

(SNES)

Designer: Kalini Strecher

Note: The timeline does not include expansions or add-on packs, re-releases on different platforms such as CD-ROM a year after a PC release, or every compilation.



2000

Star Wars: Mania Continues

The second year of the series is a celebration of the franchise's 20th anniversary. In the spirit of the franchise, the year's games are all set in the same universe, the Star Wars galaxy.

Escape from Monkey Island

(PC, PlayStation 2)
 Story: Game Design
 Project Leaders: Sam Zisk
 Manager: Michael
 Lead Programmer: Michael

Star Wars: Demolition

(PC, PlayStation 2)
 Manager: Michael
 Lead Programmer: Michael

Star Wars: Episode I Battle for Naboo

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Episode I Jedi Power Battles

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Force Commander

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

2001

New Games for New Consoles

The Star Wars franchise continues to expand its reach into new consoles. This includes a new game for the PlayStation 2, the Xbox, and the Game Boy Advance. The year's games are all set in the same universe, the Star Wars galaxy.

Star Wars: Galactic Battlegrounds

(PC, PlayStation 2)
 Director: David

Star Wars: Obi-Wan

(PC, PlayStation 2)
 Director: David
 Lead Programmer: David

Star Wars: Rogue Squadron II: Rogue Leader

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Starfighter

(PC, PlayStation 2)
 Director: David
 Project Leader: Michael
 Lead Programmer: David

Star Wars: Starfighter Special Edition

(PC, PlayStation 2)
 Director: David
 Project Leader: Michael
 Lead Programmer: David

2002

Building Franchises

The Star Wars franchise continues to expand its reach into new consoles. This includes a new game for the PlayStation 2, the Xbox, and the Game Boy Advance. The year's games are all set in the same universe, the Star Wars galaxy.

Star Wars: Bounty Hunter

(PC, PlayStation 2)
 Designer & Director: David
 Lead Programmer: David

Star Wars: The Clone Wars

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Jedi Knight II: Jedi Outcast

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Jedi Starfighter

(PC, PlayStation 2)
 Director: David
 Project Leader: Michael
 Manager: Michael

Star Wars: Racer Revenge

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

2003

Horses for Courses

The Star Wars franchise continues to expand its reach into new consoles. This includes a new game for the PlayStation 2, the Xbox, and the Game Boy Advance. The year's games are all set in the same universe, the Star Wars galaxy.

Secret Weapons Over Normandy

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Galactic An Empire Divided

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Jedi Knight Jedi Academy

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Knights of the Old Republic

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Rogue Squadron III: Rebel Strike

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael



2004

Retrench

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Mercenaries: Playground of Destruction

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Battlefront II

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Empire at War

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Episode III Revenge of the Sith

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

Star Wars: Republic Commando

(PC, PlayStation 2)
 Project Leader: Michael
 Manager: Michael

2006

LEGO Love

LucasArts publishes the Trilogies: Tales (developed by LEGO) in the hit LEGO Star Wars. The cross-platform release finds the success of the franchise in the hands of the LEGO company, which has been a successful partner in the development of the franchise.

LEGO Star Wars II: The Original Trilogy

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Thrillville

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

2007

Preparing for the Future

Handheld games: Sony PlayStation Portable and Nintendo DS are part of the upcoming releases as the internal restructuring reshapes the company's development plans for the releases in 2008.

LEGO Star Wars: The Complete Saga

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Star Wars: Battlefront Renegade Squadron

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Thrillville: Off the Rails

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

2008

The New Age

The Star Wars story continues in the videogame format and kicks off a new era in LucasArts' evolution.

Fracture

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

LEGO Indiana Jones: The Original Adventures

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Star Wars: The Clone Wars—Jedi Alliance

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Star Wars: The Clone Wars—Lightsaber Duels

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Star Wars: The Force Unleashed

(PC, PlayStation 2, Xbox 360, Wii, PSP, DS)
 Project Leader: Michael
 Manager: Michael

Appendix A

Rescue/ Concept Document

David Fox

RebelTech Games Department
Lucasfilm Ltd.

January 12, 1983

Revised 2/09/83

Introduction

This concept document describes *Rescue*, the working title of a game first conceived in September 1982 by myself and Loren Carpenter. The ideas of the original game have been expanded somewhat. Any similarities between this game and the rescue scene on the ice planet Hoth are purely coincidental.

Game Overview

In this game, the player is operating a high speed X-Wing like craft. The object is to locate and rescue the missing pilots and their downed plane on an enemy-infested planet which has very rough terrain. Once the pilots are rescued, the player must fly his craft to the mother ship, which has just returned and is in orbit above the planet. The player's point of view is from the cockpit, so everything on the screen is either of the view out the window or the controls.

Fractal lines will be generated in real time to create the terrain. At first the lines will be mostly horizontal, showing far off mountain ranges, but as the game progresses, they will begin forming deep canyons and valleys, complete with forked passages. Enemy fighter planes have been alerted to the player's approximate whereabouts so the plane must be kept as close to the ground as possible to avoid their radar. Of course, if the player gets too close to the ground or a canyon wall, he will crash.

To help locate the downed plane, a homing signal is tracked. The player can tell whether he is getting closer or farther away. As the plane approaches the downed pilot, a signal will alert the player to begin his descent for the rescue. A signal will also be seen rapidly approaching the player. Since many other specks also pass by, the player must keep one eye on the instrument panel's homing signal indicator.

The Controls

The plane is controlled by the joystick. Left and right banks the plane left and right. Forward and back on the stick subtracts or adds altitude. The Atari Home Computer joysticks have only one button which could either be used as a throttle control or as a fire button for a rear gun. A specially designed analog joystick with two buttons (throttle and guns) would be ideal. The 5200 already has the analog joystick with two buttons. Various buttons on the keyboard could be used if necessary for switching between front and rear guns, dropping a life support package to the pilot (see Rescuing the Pilot), control of the shields, as well as opening/closing the air lock door and firing the Booster Rocket. Possible instrument panel readouts include rear view screen, fuel gauge, speed, altimeter, shield energy, air lock door opened/closed, compass heading, horizon indicator, mother ship in orbit, and radar.

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The Screen

The main focus on the screen is the view from the window. The landscape will be calculated in real time and will consist of three or four fractal lines. As the plane moves forward, the nearest line will pass beneath the plane and a new line will appear in the distance. Each line represents the contour of the landscape at a certain distance and will be drawn with a different color register so color cues for distance can also be used. With this technique, it will be necessary to make the background a set color. Loren feels it might also be possible to fill in the area beneath the fractal lines to give the terrain a more solid look. If this is possible, then the sky could be one color and the terrain another color (green/brown or chartreuse - it is an alien landscape after all). If it's necessary to decrease the computing time, we could borrow the trick of reducing the active area of the screen from the game Wayout. Experimentation will determine what is possible.

During the early segments of the game, while flying over relatively flat terrain, the pilot will be able to execute 360 degree turns. However, as soon as the plane enters the canyons, these turns will be impossible, and the plane will only be able to travel forward.

After the player has rescued all of the pilots at the current level of play (or when the mother ship arrives and the player wants to abort his current mission), the transition scene to the next level begins. The player must make his craft climb out of the canyon, out of the planet's atmosphere, and into orbit to join with the waiting mother ship. The plane will not be able to exceed an altitude of 20,000* feet (the maximum reading on the altimeter) without using the Booster Rockets (which would immediately jump the game to the transition scene). In addition, a cloud layer will be placed at 15,000* feet. If the plane flies above this altitude, the view will immediately "fog out" and turn white. The higher the plane flies, the faster the enemy will spot it on their radar, so the player will avoid high-altitude travel until the proper time.

The Enemy

The enemy wants to make sure that the downed pilots stay downed. In fact, they would like to turn the player into another downed pilot. They are constantly looking for moving craft and will eventually spot the player. This will happen earlier if the player doesn't hug the ground. Eventually, the player's ship will be spotted, regardless of how low he flies. The enemy ships will then begin chasing and firing at the player. He can track them on his rear radar when they are behind him, fire at them or try to run them into the canyon walls or rocky terrain. The latter is accomplished by flying towards the wall with an enemy craft close on the player's tail. Then, at the last possible moment, to veer away from the wall. The enemy, having poorer reflexes than the player, may not be able to pull away in time and crashes into the wall. There will be a preset number of enemy fighters on each level (see Difficulty Levels).

Rescuing the Pilot

Once a downed pilot has been spotted, the player must land his craft and rescue him. At lower game levels, the player simply releases the throttle button and pushes forward on the stick. At higher levels, the velocity and angle of descent play a much more important role in a successful landing. When the craft has landed, a happy pilot is seen running toward the ship. He disappears off to the side of the screen at which time the player must open the air lock door (by pressing a button), wait until the pilot has boarded (the scene will dip as his extra weight causes the ship to bounce for a moment), close the door, and take off.

If the player misses the pilot and flies over him, he will just have to leave him to the elements (or the next game level). Fifty extra points will be awarded if the player manages to drop a life support package near the pilot. There will always be enough pilots ahead to fulfill the quota for that level of play.

* These numbers can be adjusted as necessary.

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Transition Scene

After a set amount of time has elapsed, the mother ship will return from its safe hiding place far away to orbit the planet. This may happen before the player has accomplished his mission (rescuing *n* pilots, see **Difficulty Levels** below), but the ship will always be there when the quota of pilots has been rescued. When the ship arrives, a warning indicator will light up and a tone will sound. The player may then leave the planet, and the transition scene, which is under computer control, begins. To initiate this sequence, the player presses the Fire Booster Rockets button while pulling back on the joystick. This causes the craft to rocket upward and forward, outrunning any enemy craft in the area. The player will move through the cloud layer, and find himself climbing through the deep blue (orange?) upper atmosphere. The sky will continue to darken and some stars will appear. Finally the mother ship comes into view and rapidly expands in size until its docking bay fills the screen. The player is instructed to open his air lock door, the rescued pilots disembark, the player closes the door and immediately returns to the planet for the next level of play. This entire sequence lasts no more than 20-30 seconds. Its purpose is to add some exciting special effects to the game and to provide a bridge to the next highest level.

Firing the Booster Rockets before the mother ship has returned will use up precious fuel, and the player may find himself stranded in space, at the mercy of countless enemy craft. If the player returns to the mother ship before the mission has been completed, he will receive only a part of his bonus points. Opening the air lock door while flying in the atmosphere causes a sudden drop in altitude (could be fatal if the player doesn't close the door and compensate immediately). Opening the air lock door while in space causes immediate death.

Difficulty Levels

The player has the choice of entering the game at any of a number of difficulty levels. The easier levels have flatter terrain, fewer downed pilots to rescue, and fewer enemy planes to avoid while the harder levels have winding canyons, a larger number of victims to help, and hordes of enemy fighters. Level 1 will have no enemy planes and two pilots to rescue, Level 2 will have two enemy planes and four pilots, Level 3 will have four enemies and eight pilots, etc. The enemy planes also become more intelligent, aggressive and accurate at the higher levels and the landings more difficult. The game advances to the next level after the player docks with the mother ship (see **Transition Scene**).

Scoring

Points are scored for the amount of time the player stays in the air (1 point per second), number of enemy planes shot down (\$0 points each) or landed into the canyon walls (100 points each), each pilot which is picked up during a successful landing (200), and especially for returning pilots to the mother ship (500 bonus points for each pilot returned). Bonus points are also scored if the player chooses to begin the game at a higher level (as in *Millipede* or *Tempest*). These bonus points are equal to the maximum number of points that can be scored in all lower levels.

End of Game

The game will end when all of the players are destroyed. He may start with either three or five ships, depending on OPTION setting.

Optional Scenarios

If for some reason we decided we didn't want this game to have a space motif, we could move it to a different time frame. The game could even take place on this planet during one of our more popular wars (yuck!).

Another possibility would be to turn this into an Indiana Jones adventure. Indiana could be searching for a secret cave or the place where Marion is being held captive, the evil Nazis on his

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...the screen. I believe a space theme would be more exciting.

Using the Technology

Once the technology for rapidly creating fractal lines on the Atari Home Computer has been developed, it could be used in many other games. How about a flight through an asteroid field, a land speed chase through a twisting maze of caves, a car racing game through a forested country, a downhill skiing adventure with trees and rocks as the obstacles? The possibilities are endless.

Below: One of the disguised aliens added by Rescuers on Fractalist, at George Lucas' suggestion.



Appendix B

STAR WARS REBEL ASSAULT II

Storyboard and script

by Monie Lee
Revision 1.1 Date 1/10/99

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Information in this document is proprietary and confidential

Character Sysopsis

Monie Lee
Chase
Rookie One: Male, early to mid twenties. A farm boy of Tatooine, much like Luke Skywalker. Young and enthusiastic, Rookie One joined the Rebels after losing his family in a freak farm-machinery accident. Rookie One gained much experience in the Battle of Yavin.

Polly Hunter
Commander Jenn: Female, late twenties to early thirties. Professional but with good sense of humor. Good friends with Ensign Till, whom she teases playfully to no end.

Wendy Hurlston
Ensign Till: Male, early twenties. Young, inexperienced, with a tendency to ramble-on in tense situations.

David Led Harris
Washington
Commander Kirby: Male, early forties. Experienced no-nonsense pilot, but still personable and well-respected by his troops. Somewhat cynical at times.

John Kays
Powers
Captain Merrick: Male, early to mid thirties, heavy-set. An enthusiastic live-life-to-its-fullest kind of guy, Merrick believes in fun and couldn't think of a more enjoyable place to be than in the middle of a battle against the Empire.

Janine Turner
Ina Rece: Female, early twenties. Also an enthusiastic pilot, Rece is Merrick's cousin and good friend. Rece has a strong, sometimes dry sense of humor.

Collette Michael
Ru Murteen: Female, early thirties. Hotshot pilot whose whole life has been centered around flying. She is friends of Rookie One, whom she met just prior to the Battle of Yavin. Ru is quick, bright, and has a dry, sometimes sarcastic sense of humor.

Toni Lee Jones
Commander Krane: Male, late forties. Krane is tough and not good with people. He despises the Empire and believes the best way to defeat it is with a well-honed precision fighting force. Toward this end, he gives little leeway to troops under his command.

David Led Harris
Darnell Reggs: Male, late twenties. Reggs flies under the command of Krane. Reggs has come to understand Krane as a person and respects him as a talented pilot and skillful military leader. He follows Krane's orders without question, but does not hold the Commander in high regard on a personal level.

Billy Baldwin
Cargo Captain: Male, mid twenties. A smuggler dealing mostly in small shipments of no interest to the Empire. Avoids confrontations whenever possible and is most comfortable existing in shadows.

Darth Vader: The Lord of Sith. Once having been called Anakin Skywalker, Darth Vader is the faithful servant of the Emperor. Darth Vader's strongest desire is to destroy the Rebel Alliance.

1/



[Fade up from black. Show Darth Vader from behind, standing in a darkened room looking out the window on his Star Destroyer. Admiral Sam approaches from behind. Darth turns around]

[Imp Cmdr: You wanted to see me Admiral?]

[00-B-01] *Sam: Yes. Tell your men I want no more of this destruction. I want to see a flawless D. I want them to be ready.*

[Cut to close-up of Sam.] *Admiral Sam: The Rebel fighters are in range, my Lord. Sigma squadron stands ready, awaiting your command.*

[00-B-02]

[Cut to close-up of Darth]

Darth Vader: Very well, Admiral. Engage the Rebels.

[00-B-03]

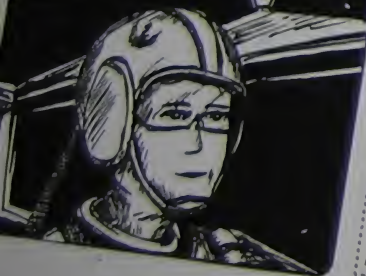
[Cut to medium shot of four Rebel ships in flight. Camera centers on one of two lead craft]

[00-B-04]

[Cut to interior of ship... Pilot is looking over intercom while looking around, scouting for ships]

Commander Jenn: Flight leader, *Rebels* seems clear here. Let's make our move and get back to base.

[00-B-05]



2/

Section



[Cut to other ship]

Ensign Till: I hear you. [slightly timidly] I don't wanna stay here a second longer than necessary.

Commander Jenn: [kiddingly over intercom] What's the matter, Till?...

[00-B-06]

[Cut to whip pan of ships passing, showing nothing around]

Commander Jenn: ...Are you telling me a hotshot pilot like you's afraid of the Drighton Triangle?

Picture

[00-B-07]

[Cut back to second ship]

Ensign Till: Look. I'm not saying I believe in ghost ^{ships} ~~fighters~~ or anything, but you've gotta admit:.....there've been a whole lot've unexplained disappearances in ~~these parts~~ ^{this sector} over the last fifty years or so...

[00-B-08]

[Cut to first ship, where Jenn is laughing quietly...]

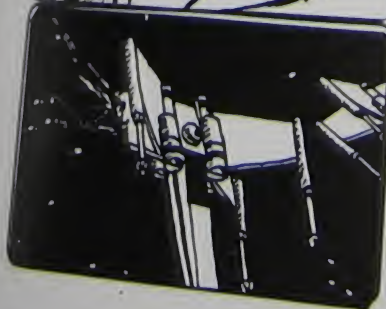
Ensign Till: Now you can't tell me that those are ALL just myths or coincidences. I mean..

[Zing! BOOM! An explosion rocks the ship. Bright flash can be seen outside. Pilot looks behind and back]

Commander Jenn: What the... I'm hit! I've lost my stabilizer!... [00-B-09]

[Cut to outside. First ship veers over toward second ship. Part of wing and engine is missing]

[00-B-10]



Appendix C

STAR WARS
ROGUE JEDI

STAR WARS
UNDERWORLD

STAR WARS
SCUM
AND
VILLAINY

STAR WARS
JEDI KNIGHT III
BRINK OF DARKNESS

STAR WARS
JEDI MASTER

STAR WARS
RISE OF THE
REBELLION

STAR WARS
REBEL JEDI

STAR WARS
JEDI REBEL

STAR WARS
REBEL
WARRIOR

STAR WARS
EPISODE VII
SHADOWS OF THE SITH

STAR WARS
SMUGGLER

STAR WARS
REBEL
SCUM

STAR WARS
DARTH MAUL

STAR WARS
HAN SOLO

STAR WARS
REBEL AGENT

STAR WARS
VADER

STAR WARS
REBEL
FURY

STAR WARS
JEDI OUTLAW

STAR WARS
JEDI HUNTER

STAR WARS
DARK
JEDI

Unused Star Wars game logos
Subject to Star Wars game
play rules, which is the trademark for
a variety of contents, including
Smuggler (see page 184) and
Jedi Master (see page 130)
designed by Peter Vukobratovic

Author's Notes + Selected Bibliography

Research for this book involved interviews—by phone, by e-mail, and in person—with many of the people who shaped and built the Linux/Android ecosystems. I conducted new interviews with Steve Arnold, Peter Langston, Gary Winnick, Noah Fahren, David Foré, Dave Gorman, Tim Schafer, Ron Gilbert, Hal Barwood, Justin Chio, Kelly Fleck, Peter Hinchman, Josh Rorick, Aaron Teich, Haden Blackman, and Jim Ward.

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Acknowledgments

Right: A screenshot of Luke, Leia, R2-D2, and C-3PO, from LEGO Star Wars

FROM THE AUTHOR

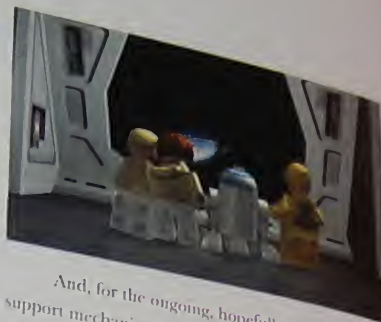
Big projects require big support, and I was blessed with plenty. My thanks go out to the following.

Kevin Tovama, my editor at Chronicle Books and the instigator of this odyssey, for his patience, guidance, assistance, and again, that patience—frayed though it may be; Lucas Licensing executive editor Jonathan W. Rinzler, for his editorial expertise and help in uncovering the gems that give depth to the book; designers Brian Singer of Altitude SF and Jacob Gardner of Chronicle Books, and Lucas Licensing art director Troy Alders, who brought these words to life with style and energy; and Chronicle Books associate managing editor Doug Ogan and production senior coordinator Erin Thacker, for their careful eye on the text and images in this book.

Pamela Glintenkamp, leader of the Lucasfilm History Project, whose past interviews with so many key players kick-started the Who's Who list.

On that Who's Who list of important personnel who defined the company spirit and style, and ultimately created its enduring products: Steve Arnold, Hal Barwood, Haden Blackman, Justin Chin, Noah Falstein, Kelly Flock, David Fox, Ron Gilbert, Peter Hirschmann, Larry Holland, Peter Langston, Aaron Loeb, Chip Morningstar, Ray Muzyka, Josh Rensick, Tim Schafer, John Smedley, Jim Ward, and Gary Winnick.

To Andy Salisbury, for scouring the magazine archives, and JT Trollman, for enduring a seeming page-by-page running commentary of how it was all progressing, and still going on the sandwich run.



And, for the ongoing, hopefully long-lasting support mechanism, even if it's just listening to a rant: Corey Cohen, Steve Klett, Dan Morrij, and Lord Neil Hobson of the Bengal Lancers.

Lucas Licensing and Chronicle Books

would like to thank the following: Steve Dykes, Eric Johnston, Greg Knight, and John Stafford from LucasArts, for their insight and collectibles; Peter Chan, Vince Lee, and Steve Purcell for sharing their portfolios and memories; and Tina Mills, Matthew Azeveda, and Stacey Leong in Image Archives, who supplied most of the book's images, and Carol Roeder, director of publishing.

A very special thanks to Tony Rowe of LucasArts for his important help and guidance. To Howard Rollman, president of Lucas Licensing, more special thanks. And of course, to George Lucas, an enormous thanks for writing the foreword—and starting what became LucasArts.



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